

V. Ocean Monitoring Data Summary

- A. Ocean Sediment Chemistry Data Tables.
- B. Fish Tissue Chemistry Data Tables.

Maps of sampling sites are included in this section.

Summary of Sampling Technique¹⁶:

Sediments

Benthic sediment is obtained using a 0.1m², chain-rigged Tandem van Veen grab sampler deployed from a City ocean monitoring vessel. Sediment samples are collected from the top 2 cm of an undisturbed grab surface and then placed into an appropriately labeled sample container. Subsamples are placed on ice and subsequently shipped to the laboratory for chemical analysis. Preservatives are used in accordance with the requirements of 40 CFR and our Quality Assurance Plan. Sediment concentrations are based on the dry weight of a sample.

Fish Tissue

Several species of flatfish and rockfish are collected by otter trawl and/or rig fishing. Dissected muscle and liver tissues from these fish are frozen and delivered to the laboratory for analysis. Tissue samples are kept frozen until prepared for analyses. Addendum 1 (June 2003) to MRP R9-2002-0025/NPDES CA0107409 changed the station definitions for trawl and rig fishing sampling, primarily eliminating or redefining stations. Trawl stations SD-7 through SD-14 were reorganized into zones as shown in Section B. In previous years' reports, samples from stations involved in the South Bay Ocean Outfall Predischarge Monitoring, such as SD-15, SD-17 thru SD-21 and RF-3 & RF-4 were included in this Pt. Loma Outfall Report. Since this data is now reported in the South Bay Outfall Monitoring reports, they are no longer contained in this report. Additionally, determinations of Poly Aromatic Hydrocarbon (PAHs) were removed by the modifications.

¹⁶ For complete description of the sampling protocols, dissection techniques, equipment, vessels, etc. related to the sampling of ocean sediments and fish, please refer to the City of San Diego, Annual Receiving Waters Monitoring Report for the Point Loma Ocean Outfall 2008.

A. Ocean Sediment Chemistries.

The data for Biochemical Oxygen Demand (BOD) and Total Volatile Solids (TVS), all measures of organic enrichment, as well as total sulfides and temperature, are all presented by quarter and averaged. The quarterly particle size analysis does not lend itself to summarization and each quarter's analysis is presented separately. For the data from all the metals, cyanide, radiation and all of the numerous organic priority pollutant analyses (except dioxin, presented by quarter) only the average of the four quarters is presented here; the values for each quarter has been reported in the Quarterly Monitoring Reports and are on file.

Sampling stations may also be identified by either a 3-digit number and/or a letter-number identification code. All "A" stations are 100 series and "B" stations are 200 series designations. For example, the station A-15 is also called 115 and station B-7 would be 207.

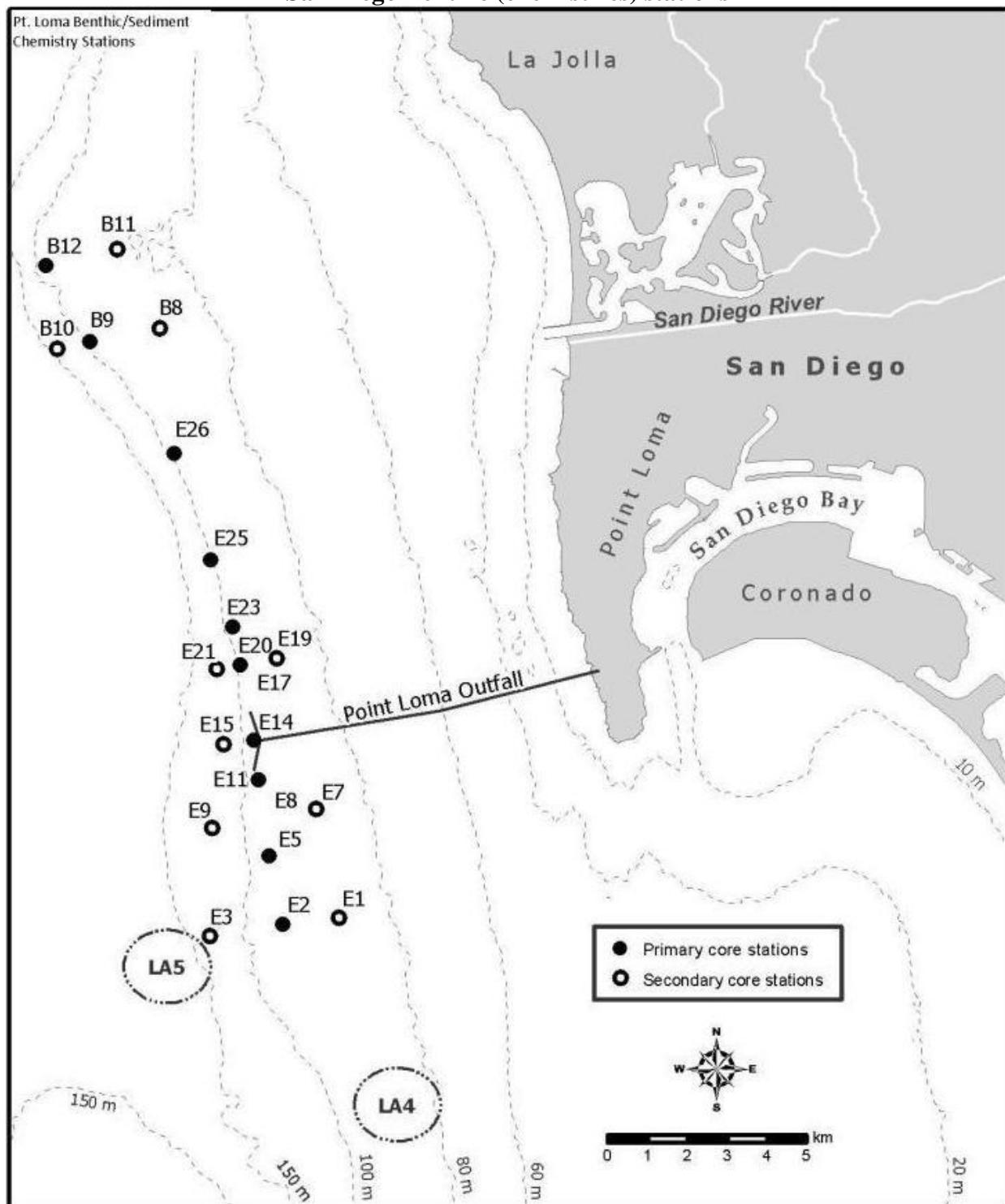
Chemistries for benthic sediments for 22 “Core Stations” are identified in the following table.

Core Stations			
B-8	E-1	E-9	E-20
B-9	E-2	E-11	E-21
B-10	E-3	E-14	E-23
B-11	E-5	E-15	E-25
B-12	E-7	E-17	E-26
	E-8	E-19	

NPDES Permit No. CA 0107409/SDRWQCB Order No. R9-2002-0025 was modified in 2005 to incorporate 8 “Recovery Stations” (listed in following table) in the regular monitoring program as an on-going special study. The suite of analyses is not inclusive, e.g. BOD and PAHs are not a required part of the monitoring program for these stations and may not be included.

Recovery Stations	
A-2	A-15
A-5	A-16
A-8	B-3
A-9	B-5

San Diego Benthic (chemistries) stations



POINT LOMA WASTEWATER TREATMENT PLANT
OCEAN SEDIMENT ANNUAL

Annual 2011

Biochemical Oxygen Demand
(mg/Kg)

STATION	First Quarter	Third Quarter	Average of All Quarters
B-8	439	446	443
B-9	301	338	320
B-10	365	NS	365
B-11	365	621	493
B-12	524	409	467
E-1	303	224	264
E-2	371	293	332
E-3	282	214	248
E-5	321	251	286
E-7	357	338	348
E-8	383	253	318
E-9	388	347	368
E-11	483	344	414
E-14	541	381	461
E-15	308	455	382
E-17	406	362	384
E-19	430	405	418
E-20	251	328	290
E-21	350	319	335
E-23	311	265	288
E-25	344	287	316
E-26	398	464	431

ND= not detected

POINT LOMA WASTEWATER TREATMENT PLANT

OCEAN SEDIMENT ANNUAL

From 01-JAN-2011 To 31-DEC-2011

Sulfides, Total
(mg/Kg)

STATION	First Quarter	Third Quarter	Average of All Quarters
A-2	NS	17.1	17.1
A-5	NS	46.1	46.1
A-8	NS	34.8	34.8
A-9	NS	21.4	21.4
A-15	NS	15.1	15.1
A-16	NS	22.7	22.7
B-3	NS	3.9	3.9
B-5	NS	7.4	7.4
B-8	2.5	13.1	7.8
B-9	3.0	10.9	7.0
B-10	1.9	9.0	5.5
B-11	2.5	8.7	5.6
B-12	3.8	3.6	3.7
E-1	2.8	4.0	3.4
E-2	2.9	12.9	7.9
E-3	3.3	7.6	5.5
E-5	4.7	7.6	6.2
E-7	2.8	3.3	3.1
E-8	2.7	11.8	7.3
E-9	2.8	5.7	4.3
E-11	3.3	2.2	2.8
E-14	35.7	52.4	44.1
E-15	5.9	4.5	5.2
E-17	4.0	24.8	14.4
E-19	1.7	3.0	2.4
E-20	2.0	1.8	1.9
E-21	3.8	3.2	3.5
E-23	1.1	2.1	1.6
E-25	1.9	3.7	2.8
E-26	4.5	9.3	6.9

ND= not detected

NA= not analyzed

NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT

OCEAN SEDIMENT ANNUAL

From 01-JAN-2011 To 31-DEC-2011

Total Volatile Solids
(% Weight)

STATION	First Quarter	Third Quarter	Average of All Quarters
A-2	NS	2.6	2.6
A-5	NS	2.7	2.7
A-8	NS	2.8	2.8
A-9	NS	2.7	2.7
A-15	NS	2.7	2.7
A-16	NS	2.5	2.5
B-3	NS	2.4	2.4
B-5	NS	2.9	2.9
B-8	3.3	3.1	3.2
B-9	2.7	2.8	2.8
B-10	2.5	2.7	2.6
B-11	3.6	4.0	3.8
B-12	3.2	3.2	3.2
E-1	2.2	2.2	2.2
E-2	2.4	2.5	2.5
E-3	1.8	1.9	1.9
E-5	2.0	2.2	2.1
E-7	2.1	2.3	2.2
E-8	2.0	2.1	2.1
E-9	1.8	2.4	2.1
E-11	1.9	2.1	2.0
E-14	1.7	1.6	1.7
E-15	1.9	2.3	2.1
E-17	2.1	2.0	2.1
E-19	2.5	2.4	2.5
E-20	1.8	2.1	2.0
E-21	1.8	2.2	2.0
E-23	2.3	2.2	2.3
E-25	2.3	2.6	2.5
E-26	2.4	2.5	2.5

ND= not detected

NA= not analyzed

NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		A-2	A-5	A-8	A-9	A-15
Sample ID:	P573035	P573044	P573046	P573051	P573028	
Analyte	MDL Units	12-JUL-2011	12-JUL-2011	12-JUL-2011	12-JUL-2011	12-JUL-2011
<0.500 microns, Phi 11		0.000	0.000	0.000	0.000	0.000
>0.5 to 1 microns, Phi 10		0.130	0.212	0.212	0.210	0.320
>1 to 1.5 microns, Phi 9.5		0.427	0.469	0.436	0.446	0.458
>1.5 to 2 microns, Phi 9		0.488	0.563	0.483	0.510	0.518
>2.0 to 2.4 microns		0.435	0.515	0.421	0.452	0.457
>2.4 to 2.9 microns, Phi 8.5		0.575	0.686	0.546	0.591	0.596
>2.9 to 3.4 microns		0.604	0.722	0.563	0.613	0.618
>3.4 to 3.9 microns, Phi 8		0.660	0.793	0.604	0.663	0.667
>3.9 to 4 microns		0.139	0.166	0.126	0.138	0.139
>4.0 to 4.3 microns		0.397	0.476	0.361	0.395	0.399
>4.3 to 4.5 microns		0.256	0.307	0.232	0.255	0.257
>4.5 to 5 microns		0.687	0.822	0.617	0.678	0.685
>5 to 5.5 microns		0.685	0.818	0.613	0.673	0.680
>5.5 to 5.7 microns		0.265	0.316	0.237	0.260	0.263
>5.7 to 5.9 microns, Phi 7.5		0.261	0.311	0.233	0.256	0.259
>5.9 to 7.8 microns, Phi 7		2.480	2.950	2.200	2.410	2.450
>7.8 to 8 microns		0.255	0.302	0.226	0.247	0.251
>8 to 8.5 microns		0.609	0.724	0.541	0.592	0.602
>8.5 to 8.9 microns		0.469	0.557	0.417	0.456	0.463
>8.9 to 9.1 microns		0.239	0.285	0.213	0.233	0.237
>9.1 to 9.5 microns		0.463	0.551	0.413	0.452	0.459
>9.5 to 9.8 microns		0.335	0.398	0.299	0.326	0.332
>9.8 to 10.1 microns		0.325	0.387	0.290	0.317	0.322
>10.1 to 10.6 microns		0.561	0.668	0.502	0.549	0.557
>10.6 to 11.1 microns		0.534	0.638	0.479	0.523	0.532
>11.1 to 11.3 microns		0.207	0.247	0.186	0.203	0.206
>11.3 to 11.7 microns, Phi 6.5		0.406	0.485	0.365	0.399	0.405
>11.7 to 14 microns		2.140	2.580	1.950	2.130	2.160
>14 to 14.8 microns		0.682	0.825	0.627	0.684	0.690
>14.8 to 15.6 microns		0.659	0.802	0.610	0.668	0.671
>15.6 to 16 microns		0.322	0.395	0.301	0.330	0.330
>16 to 20 microns		2.890	3.580	2.730	3.000	2.980
>20 to 23 microns, Phi 5.5		1.880	2.380	1.830	2.020	1.980
>23 to 27 microns		2.270	2.960	2.270	2.530	2.430
>27 to 31 microns, Phi 5		2.130	2.840	2.170	2.450	2.320
>31 to 32 microns		0.529	0.714	0.548	0.622	0.580
>32 to 35.6 microns		1.880	2.550	1.970	2.230	2.070
>35.6 to 37 microns, Phi 4.75		0.752	1.020	0.790	0.902	0.829
>37 to 39.6 microns		1.370	1.850	1.440	1.640	1.510
>39.6 to 43.6 microns		2.330	3.100	2.470	2.820	2.560
>43.6 to 44 microns, Phi 4.5		0.222	0.294	0.235	0.268	0.243
>44 to 45 microns		0.554	0.733	0.588	0.670	0.608
>45 to 46.4 microns		0.949	1.210	1.010	1.140	1.030
>46.4 to 53 microns, Phi 4.25		4.370	5.460	4.650	5.220	4.720
>53 to 62.5 microns, Phi 4		7.080	8.120	7.490	8.150	7.440
>62.5 to 64 microns		1.160	1.260	1.230	1.300	1.200
>64 to 71.7 microns		6.060	6.210	6.350	6.550	6.150
>71.7 to 74 microns		1.810	1.760	1.880	1.900	1.810
>74 to 79.6 microns		4.310	4.020	4.450	4.380	4.250
>79.6 to 87.6 microns		5.920	5.160	6.060	5.760	5.730

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		A-2	A-5	A-8	A-9	A-15
Sample ID:	P573035	P573044	P573046	P573051	P573028	
Analyte	MDL Units	12-JUL-2011	12-JUL-2011	12-JUL-2011	12-JUL-2011	12-JUL-2011
>87.6 to 88 microns, Phi 3.5		0.282	0.245	0.288	0.274	0.272
>88 to 90 microns		1.380	1.120	1.390	1.280	1.310
>90 to 105 microns, Phi 3.25		9.220	7.110	9.240	8.240	8.640
>105 to 125 microns, Phi 3		8.880	6.270	8.790	7.460	8.180
>125 to 149 microns, Phi 2.75		6.620	4.420	6.510	5.370	6.080
>149 to 160 microns		1.860	1.230	1.830	1.510	1.730
>160 to 177 microns, Phi 2.5		2.170	1.430	2.140	1.760	2.030
>177 to 197 microns		1.520	1.010	1.500	1.260	1.450
>197 to 210 microns, Phi 2.25		0.628	0.428	0.617	0.535	0.607
>210 to 217 microns		0.278	0.191	0.273	0.240	0.271
>217 to 245 microns		0.790	0.553	0.776	0.694	0.778
>245 to 250 microns, Phi 2		0.100	0.071	0.098	0.090	0.099
>250 to 300 microns, Phi 1.75		0.623	0.458	0.611	0.577	0.631
>300 to 320 microns		0.114	0.088	0.112	0.111	0.118
>320 to 350 microns, Phi 1.5		0.145	0.114	0.142	0.142	0.151
>350 to 360 microns		0.032	0.026	0.031	0.032	0.033
>360 to 400 microns		0.114	0.083	0.112	0.115	0.119
>400 to 420 microns, Phi 1.25		0.040	0.000	0.039	0.040	0.042
>420 to 440 microns		0.038	0.000	0.038	0.039	0.040
>440 to 500 microns, Phi 1		0.021	0.000	0.021	0.022	0.022
>500 to 590 microns, Phi 0.75		0.000	0.000	0.000	0.000	0.000
>590 to 630 microns		0.000	0.000	0.000	0.000	0.000
>630 to 696 microns		0.000	0.000	0.000	0.000	0.000
>696 to 710 microns, Phi 0.5		0.000	0.000	0.000	0.000	0.000
>710 to 773 microns		0.000	0.000	0.000	0.000	0.000
>773 to 840 microns, Phi 0.25		0.000	0.000	0.000	0.000	0.000
>840 to 850 microns		0.000	0.000	0.000	0.000	0.000
>850 to 930 microns		0.000	0.000	0.000	0.000	0.000
>930 to 1000 microns, Phi 0		0.000	0.000	0.000	0.000	0.000
1000 to 1100 microns		0.000	0.000	0.000	0.000	0.000
>1100 to 1190 microns, Phi -0.25		0.000	0.000	0.000	0.000	0.000
>1190 to 1300 microns		0.000	0.000	0.000	0.000	0.000
>1300 to 1410 microns, Phi -0.5		0.000	0.000	0.000	0.000	0.000
>1410 to 1680 microns, Phi -0.75		0.000	0.000	0.000	0.000	0.000
>1680 to 2000 microns, Phi -1		0.000	0.000	0.000	0.000	0.000
>2000 microns*		ND	ND	ND	ND	ND
Totals:		100.016	100.038	100.022	100.002	100.026

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		A-16	B-3	B-5	B-8	B-8
SampleID:		P573030	P573518	P573524	P548395	P573688
Analyte	MDL Units	12-JUL-2011	14-JUL-2011	14-JUL-2011	06-JAN-2011	18-JUL-2011
<0.500 microns, Phi 11		0.000	0.000	0.000	0.000	0.087
>0.5 to 1 microns, Phi 10		0.101	0.209	0.328	0.420	0.634
>1 to 1.5 microns, Phi 9.5		0.428	0.451	0.491	0.557	0.587
>1.5 to 2 microns, Phi 9		0.511	0.529	0.582	0.671	0.676
>2.0 to 2.4 microns		0.467	0.477	0.528	0.609	0.595
>2.4 to 2.9 microns, Phi 8.5		0.626	0.631	0.701	0.802	0.767
>2.9 to 3.4 microns		0.663	0.662	0.734	0.835	0.781
>3.4 to 3.9 microns, Phi 8		0.733	0.724	0.804	0.907	0.832
>3.9 to 4 microns		0.154	0.151	0.166	0.189	0.170
>4.0 to 4.3 microns		0.442	0.435	0.477	0.542	0.489
>4.3 to 4.5 microns		0.285	0.280	0.307	0.349	0.314
>4.5 to 5 microns		0.768	0.752	0.818	0.931	0.826
>5 to 5.5 microns		0.766	0.749	0.805	0.927	0.815
>5.5 to 5.7 microns		0.296	0.289	0.310	0.358	0.314
>5.7 to 5.9 microns, Phi 7.5		0.292	0.285	0.305	0.353	0.308
>5.9 to 7.8 microns, Phi 7		2.770	2.710	2.820	3.340	2.870
>7.8 to 8 microns		0.283	0.278	0.280	0.347	0.295
>8 to 8.5 microns		0.678	0.666	0.671	0.829	0.708
>8.5 to 8.9 microns		0.522	0.513	0.514	0.640	0.546
>8.9 to 9.1 microns		0.266	0.262	0.258	0.330	0.281
>9.1 to 9.5 microns		0.514	0.508	0.499	0.638	0.543
>9.5 to 9.8 microns		0.372	0.367	0.360	0.461	0.393
>9.8 to 10.1 microns		0.361	0.356	0.350	0.448	0.381
>10.1 to 10.6 microns		0.621	0.617	0.590	0.781	0.665
>10.6 to 11.1 microns		0.592	0.589	0.562	0.746	0.634
>11.1 to 11.3 microns		0.229	0.228	0.218	0.289	0.246
>11.3 to 11.7 microns, Phi 6.5		0.449	0.448	0.424	0.570	0.486
>11.7 to 14 microns		2.370	2.380	2.190	3.080	2.640
>14 to 14.8 microns		0.752	0.762	0.687	0.995	0.860
>14.8 to 15.6 microns		0.725	0.740	0.658	0.978	0.851
>15.6 to 16 microns		0.354	0.363	0.320	0.485	0.425
>16 to 20 microns		3.180	3.280	2.840	4.450	3.940
>20 to 23 microns, Phi 5.5		2.070	2.180	1.820	3.060	2.780
>23 to 27 microns		2.500	2.680	2.200	3.880	3.630
>27 to 31 microns, Phi 5		2.360	2.540	2.080	3.780	3.620
>31 to 32 microns		0.586	0.635	0.524	0.956	0.927
>32 to 35.6 microns		2.090	2.260	1.880	3.390	3.300
>35.6 to 37 microns, Phi 4.75		0.829	0.895	0.759	1.340	1.320
>37 to 39.6 microns		1.510	1.620	1.380	2.410	2.380
>39.6 to 43.6 microns		2.550	2.700	2.380	3.890	3.870
>43.6 to 44 microns, Phi 4.5		0.242	0.256	0.226	0.369	0.368
>44 to 45 microns		0.604	0.639	0.565	0.916	0.913
>45 to 46.4 microns		1.020	1.050	0.968	1.410	1.420
>46.4 to 53 microns, Phi 4.25		4.660	4.770	4.450	6.230	6.330
>53 to 62.5 microns, Phi 4		7.330	7.220	7.100	8.290	8.600
>62.5 to 64 microns		1.180	1.140	1.150	1.210	1.270
>64 to 71.7 microns		6.040	5.790	5.940	5.600	5.970
>71.7 to 74 microns		1.770	1.680	1.760	1.520	1.630
>74 to 79.6 microns		4.150	3.950	4.150	3.330	3.620
>79.6 to 87.6 microns		5.570	5.300	5.640	4.040	4.440

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		A-16	B-3	B-5	B-8	B-8
Sample ID:		P573030	P573518	P573524	P548395	P573688
Analyte	MDL Units	12-JUL-2011	14-JUL-2011	14-JUL-2011	06-JAN-2011	18-JUL-2011
>87.6 to 88 microns, Phi 3.5		0.265	0.252	0.268	0.192	0.211
>88 to 90 microns		1.260	1.220	1.300	0.830	0.924
>90 to 105 microns, Phi 3.25		8.310	8.130	8.680	5.090	5.720
>105 to 125 microns, Phi 3		7.820	7.920	8.400	4.200	4.770
>125 to 149 microns, Phi 2.75		5.820	6.010	6.360	2.810	3.200
>149 to 160 microns		1.660	1.700	1.820	0.753	0.856
>160 to 177 microns, Phi 2.5		1.960	1.980	2.140	0.867	0.983
>177 to 197 microns		1.410	1.370	1.520	0.607	0.684
>197 to 210 microns, Phi 2.25		0.596	0.557	0.632	0.257	0.287
>210 to 217 microns		0.267	0.244	0.281	0.115	0.128
>217 to 245 microns		0.769	0.688	0.798	0.337	0.374
>245 to 250 microns, Phi 2		0.099	0.086	0.101	0.044	0.049
>250 to 300 microns, Phi 1.75		0.631	0.533	0.629	0.295	0.321
>300 to 320 microns		0.119	0.097	0.114	0.062	0.067
>320 to 350 microns, Phi 1.5		0.153	0.124	0.145	0.070	0.074
>350 to 360 microns		0.034	0.028	0.032	0.000	0.000
>360 to 400 microns		0.121	0.089	0.114	0.000	0.000
>400 to 420 microns, Phi 1.25		0.042	0.000	0.039	0.000	0.000
>420 to 440 microns		0.040	0.000	0.038	0.000	0.000
>440 to 500 microns, Phi 1		0.022	0.000	0.021	0.000	0.000
>500 to 590 microns, Phi 0.75		0.000	0.000	0.000	0.000	0.000
>590 to 630 microns		0.000	0.000	0.000	0.000	0.000
>630 to 696 microns		0.000	0.000	0.000	0.000	0.000
>696 to 710 microns, Phi 0.5		0.000	0.000	0.000	0.000	0.000
>710 to 773 microns		0.000	0.000	0.000	0.000	0.000
>773 to 840 microns, Phi 0.25		0.000	0.000	0.000	0.000	0.000
>840 to 850 microns		0.000	0.000	0.000	0.000	0.000
>850 to 930 microns		0.000	0.000	0.000	0.000	0.000
>930 to 1000 microns, Phi 0		0.000	0.000	0.000	0.000	0.000
1000 to 1100 microns		0.000	0.000	0.000	0.000	0.000
>1100 to 1190 microns, Phi -0.25		0.000	0.000	0.000	0.000	0.000
>1190 to 1300 microns		0.000	0.000	0.000	0.000	0.000
>1300 to 1410 microns, Phi -0.5		0.000	0.000	0.000	0.000	0.000
>1410 to 1680 microns, Phi -0.75		0.000	0.000	0.000	0.000	0.000
>1680 to 2000 microns, Phi -1		0.000	0.000	0.000	0.000	0.000
>2000 microns*		ND	ND	ND	ND	ND
Totals:		100.029	100.024	100.001	100.007	99.995

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		B-9	B-9	B-10	B-10	B-11
Sample ID:	P548401	P573693	P548372	P573672	P548379	
Analyte	MDL Units	06-JAN-2011	18-JUL-2011	06-JAN-2011	18-JUL-2011	06-JAN-2011
<0.500 microns, Phi 11		0.000	0.000	0.000	0.000	0.000
>0.5 to 1 microns, Phi 10		0.102	0.099	0.101	0.000	0.218
>1 to 1.5 microns, Phi 9.5		0.447	0.432	0.424	0.285	0.516
>1.5 to 2 microns, Phi 9		0.552	0.535	0.508	0.441	0.663
>2.0 to 2.4 microns		0.514	0.501	0.470	0.414	0.631
>2.4 to 2.9 microns, Phi 8.5		0.693	0.679	0.633	0.562	0.863
>2.9 to 3.4 microns		0.736	0.722	0.672	0.599	0.927
>3.4 to 3.9 microns, Phi 8		0.816	0.804	0.745	0.668	1.040
>3.9 to 4 microns		0.170	0.167	0.154	0.138	0.219
>4.0 to 4.3 microns		0.489	0.480	0.443	0.397	0.629
>4.3 to 4.5 microns		0.315	0.310	0.286	0.256	0.406
>4.5 to 5 microns		0.848	0.832	0.765	0.685	1.100
>5 to 5.5 microns		0.840	0.822	0.751	0.669	1.100
>5.5 to 5.7 microns		0.324	0.317	0.289	0.257	0.424
>5.7 to 5.9 microns, Phi 7.5		0.319	0.312	0.284	0.253	0.418
>5.9 to 7.8 microns, Phi 7		2.990	2.900	2.610	2.310	3.940
>7.8 to 8 microns		0.302	0.289	0.255	0.224	0.396
>8 to 8.5 microns		0.722	0.692	0.610	0.535	0.949
>8.5 to 8.9 microns		0.554	0.530	0.466	0.408	0.727
>8.9 to 9.1 microns		0.280	0.266	0.230	0.201	0.365
>9.1 to 9.5 microns		0.541	0.514	0.446	0.389	0.707
>9.5 to 9.8 microns		0.391	0.372	0.322	0.281	0.511
>9.8 to 10.1 microns		0.380	0.361	0.312	0.272	0.496
>10.1 to 10.6 microns		0.646	0.608	0.518	0.449	0.840
>10.6 to 11.1 microns		0.617	0.580	0.494	0.428	0.801
>11.1 to 11.3 microns		0.239	0.225	0.191	0.166	0.310
>11.3 to 11.7 microns, Phi 6.5		0.466	0.437	0.369	0.319	0.601
>11.7 to 14 microns		2.430	2.260	1.860	1.600	3.080
>14 to 14.8 microns		0.764	0.706	0.571	0.491	0.957
>14.8 to 15.6 microns		0.734	0.675	0.537	0.462	0.905
>15.6 to 16 microns		0.357	0.328	0.257	0.221	0.434
>16 to 20 microns		3.180	2.900	2.220	1.910	3.790
>20 to 23 microns, Phi 5.5		2.050	1.850	1.340	1.160	2.320
>23 to 27 microns		2.480	2.230	1.540	1.340	2.660
>27 to 31 microns, Phi 5		2.330	2.100	1.390	1.230	2.370
>31 to 32 microns		0.583	0.527	0.341	0.306	0.567
>32 to 35.6 microns		2.080	1.890	1.210	1.100	1.970
>35.6 to 37 microns, Phi 4.75		0.827	0.755	0.481	0.441	0.754
>37 to 39.6 microns		1.500	1.370	0.877	0.807	1.350
>39.6 to 43.6 microns		2.530	2.330	1.510	1.420	2.140
>43.6 to 44 microns, Phi 4.5		0.240	0.221	0.143	0.135	0.203
>44 to 45 microns		0.599	0.552	0.359	0.338	0.505
>45 to 46.4 microns		0.999	0.929	0.632	0.607	0.783
>46.4 to 53 microns, Phi 4.25		4.560	4.240	2.950	2.860	3.500
>53 to 62.5 microns, Phi 4		7.070	6.630	5.130	5.100	4.980
>62.5 to 64 microns		1.130	1.070	0.882	0.890	0.765
>64 to 71.7 microns		5.790	5.490	4.890	5.010	3.810
>71.7 to 74 microns		1.700	1.620	1.520	1.580	1.100
>74 to 79.6 microns		4.010	3.840	3.820	4.000	2.580
>79.6 to 87.6 microns		5.430	5.250	5.640	5.980	3.480

POINT LOMA WASTEWATER TREATMENT PLANT
 SEDIMENT Grain Size
 (all values are in percent distribution)

Annual 2011

Source:		B-9	B-9	B-10	B-10	B-11
Sample ID:	P548401	P573693	P548372	P573672	P548379	
Analyte	MDL Units	06-JAN-2011	18-JUL-2011	06-JAN-2011	18-JUL-2011	06-JAN-2011
>87.6 to 88 microns, Phi 3.5		0.258	0.250	0.268	0.284	0.165
>88 to 90 microns		1.250	1.240	1.440	1.550	0.831
>90 to 105 microns, Phi 3.25		8.310	8.360	10.300	11.100	5.760
>105 to 125 microns, Phi 3		7.960	8.480	11.400	12.300	6.540
>125 to 149 microns, Phi 2.75		5.910	6.800	9.590	10.200	6.320
>149 to 160 microns		1.660	2.060	2.900	3.040	2.320
>160 to 177 microns, Phi 2.5		1.940	2.480	3.470	3.620	3.090
>177 to 197 microns		1.370	1.850	2.490	2.570	2.760
>197 to 210 microns, Phi 2.25		0.567	0.796	1.030	1.050	1.340
>210 to 217 microns		0.252	0.359	0.455	0.463	0.638
>217 to 245 microns		0.719	1.040	1.280	1.300	1.950
>245 to 250 microns, Phi 2		0.091	0.134	0.158	0.160	0.269
>250 to 300 microns, Phi 1.75		0.575	0.843	0.952	0.964	1.760
>300 to 320 microns		0.107	0.153	0.158	0.161	0.322
>320 to 350 microns, Phi 1.5		0.136	0.194	0.199	0.203	0.404
>350 to 360 microns		0.030	0.041	0.040	0.042	0.080
>360 to 400 microns		0.108	0.147	0.145	0.149	0.281
>400 to 420 microns, Phi 1.25		0.038	0.049	0.047	0.049	0.084
>420 to 440 microns		0.036	0.047	0.045	0.047	0.080
>440 to 500 microns, Phi 1		0.020	0.106	0.102	0.106	0.162
>500 to 590 microns, Phi 0.75		0.000	0.026	0.025	0.026	0.039
>590 to 630 microns		0.000	0.000	0.000	0.000	0.000
>630 to 696 microns		0.000	0.000	0.000	0.000	0.000
>696 to 710 microns, Phi 0.5		0.000	0.000	0.000	0.000	0.000
>710 to 773 microns		0.000	0.000	0.000	0.000	0.000
>773 to 840 microns, Phi 0.25		0.000	0.000	0.000	0.000	0.000
>840 to 850 microns		0.000	0.000	0.000	0.000	0.000
>850 to 930 microns		0.000	0.000	0.000	0.000	0.000
>930 to 1000 microns, Phi 0		0.000	0.000	0.000	0.000	0.000
1000 to 1100 microns		0.000	0.000	0.000	0.000	0.000
>1100 to 1190 microns, Phi -0.25		0.000	0.000	0.000	0.000	0.000
>1190 to 1300 microns		0.000	0.000	0.000	0.000	0.000
>1300 to 1410 microns, Phi -0.5		0.000	0.000	0.000	0.000	0.000
>1410 to 1680 microns, Phi -0.75		0.000	0.000	0.000	0.000	0.000
>1680 to 2000 microns, Phi -1		0.000	0.000	0.000	0.000	0.000
>2000 microns*		ND	ND	ND	ND	1.83
Totals:		100.003	100.004	99.942	99.978	101.825

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		B-11 P573678	B-12 P548384	B-12 P573682	E-1 P549412	E-1 P572948	
Sample ID:		MDL Units	18-JUL-2011	06-JAN-2011	18-JUL-2011	11-JAN-2011	11-JUL-2011
<hr/>							
<0.500 microns, Phi 11		0.000	0.000	0.000	0.000	0.000	
>0.5 to 1 microns, Phi 10		0.109	0.102	0.209	0.213	0.106	
>1 to 1.5 microns, Phi 9.5		0.498	0.424	0.441	0.488	0.463	
>1.5 to 2 microns, Phi 9		0.643	0.513	0.532	0.589	0.557	
>2.0 to 2.4 microns		0.613	0.480	0.498	0.531	0.503	
>2.4 to 2.9 microns, Phi 8.5		0.836	0.654	0.679	0.694	0.658	
>2.9 to 3.4 microns		0.893	0.700	0.728	0.714	0.678	
>3.4 to 3.9 microns, Phi 8		1.000	0.784	0.816	0.769	0.729	
>3.9 to 4 microns		0.209	0.163	0.170	0.158	0.150	
>4.0 to 4.3 microns		0.599	0.469	0.488	0.455	0.430	
>4.3 to 4.5 microns		0.387	0.303	0.315	0.293	0.277	
>4.5 to 5 microns		1.040	0.815	0.849	0.774	0.731	
>5 to 5.5 microns		1.030	0.802	0.834	0.766	0.721	
>5.5 to 5.7 microns		0.399	0.309	0.321	0.295	0.278	
>5.7 to 5.9 microns, Phi 7.5		0.393	0.304	0.316	0.290	0.273	
>5.9 to 7.8 microns, Phi 7		3.670	2.810	2.910	2.710	2.540	
>7.8 to 8 microns		0.367	0.276	0.282	0.277	0.259	
>8 to 8.5 microns		0.880	0.660	0.676	0.664	0.620	
>8.5 to 8.9 microns		0.674	0.504	0.515	0.511	0.478	
>8.9 to 9.1 microns		0.338	0.250	0.253	0.261	0.244	
>9.1 to 9.5 microns		0.655	0.484	0.491	0.505	0.472	
>9.5 to 9.8 microns		0.473	0.349	0.355	0.365	0.341	
>9.8 to 10.1 microns		0.459	0.339	0.344	0.354	0.331	
>10.1 to 10.6 microns		0.776	0.564	0.567	0.613	0.572	
>10.6 to 11.1 microns		0.741	0.538	0.541	0.585	0.546	
>11.1 to 11.3 microns		0.287	0.208	0.209	0.227	0.211	
>11.3 to 11.7 microns, Phi 6.5		0.557	0.402	0.402	0.445	0.416	
>11.7 to 14 microns		2.860	2.030	2.000	2.370	2.220	
>14 to 14.8 microns		0.892	0.625	0.611	0.760	0.714	
>14.8 to 15.6 microns		0.847	0.588	0.570	0.738	0.696	
>15.6 to 16 microns		0.408	0.281	0.270	0.363	0.344	
>16 to 20 microns		3.590	2.440	2.320	3.290	3.130	
>20 to 23 microns, Phi 5.5		2.230	1.480	1.370	2.190	2.110	
>23 to 27 microns		2.600	1.690	1.530	2.690	2.630	
>27 to 31 microns, Phi 5		2.350	1.520	1.350	2.530	2.510	
>31 to 32 microns		0.570	0.369	0.325	0.621	0.623	
>32 to 35.6 microns		1.990	1.300	1.140	2.170	2.190	
>35.6 to 37 microns, Phi 4.75		0.767	0.507	0.442	0.840	0.853	
>37 to 39.6 microns		1.380	0.916	0.798	1.510	1.530	
>39.6 to 43.6 microns		2.200	1.510	1.310	2.390	2.440	
>43.6 to 44 microns, Phi 4.5		0.209	0.144	0.124	0.226	0.232	
>44 to 45 microns		0.519	0.358	0.310	0.562	0.575	
>45 to 46.4 microns		0.812	0.589	0.509	0.865	0.890	
>46.4 to 53 microns, Phi 4.25		3.640	2.690	2.320	3.850	3.970	
>53 to 62.5 microns, Phi 4		5.210	4.190	3.650	5.380	5.580	
>62.5 to 64 microns		0.802	0.678	0.595	0.819	0.852	
>64 to 71.7 microns		4.010	3.560	3.160	4.060	4.240	
>71.7 to 74 microns		1.160	1.070	0.957	1.160	1.220	
>74 to 79.6 microns		2.720	2.600	2.370	2.730	2.880	
>79.6 to 87.6 microns		3.670	3.700	3.440	3.690	3.900	

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		B-11	B-12	B-12	E-1	E-1
Sample ID:	P573678	P548384	P573682	P549412	P572948	
Analyte	MDL Units	18-JUL-2011	06-JAN-2011	18-JUL-2011	11-JAN-2011	11-JUL-2011
>87.6 to 88 microns, Phi 3.5		0.175	0.176	0.164	0.175	0.186
>88 to 90 microns		0.877	0.937	0.898	0.892	0.946
>90 to 105 microns, Phi 3.25		6.060	6.760	6.620	6.250	6.620
>105 to 125 microns, Phi 3		6.810	8.360	8.590	7.350	7.690
>125 to 149 microns, Phi 2.75		6.490	8.760	9.410	7.330	7.500
>149 to 160 microns		2.360	3.460	3.810	2.730	2.730
>160 to 177 microns, Phi 2.5		3.130	4.760	5.270	3.640	3.590
>177 to 197 microns		2.780	4.550	5.050	3.220	3.120
>197 to 210 microns, Phi 2.25		1.340	2.320	2.550	1.530	1.470
>210 to 217 microns		0.637	1.130	1.230	0.724	0.691
>217 to 245 microns		1.940	3.530	3.810	2.180	2.070
>245 to 250 microns, Phi 2		0.268	0.500	0.532	0.294	0.279
>250 to 300 microns, Phi 1.75		1.750	3.300	3.440	1.880	1.780
>300 to 320 microns		0.319	0.584	0.586	0.326	0.314
>320 to 350 microns, Phi 1.5		0.400	0.726	0.725	0.408	0.393
>350 to 360 microns		0.079	0.134	0.131	0.079	0.077
>360 to 400 microns		0.279	0.469	0.461	0.279	0.274
>400 to 420 microns, Phi 1.25		0.083	0.128	0.125	0.083	0.083
>420 to 440 microns		0.079	0.122	0.119	0.079	0.079
>440 to 500 microns, Phi 1		0.162	0.230	0.225	0.162	0.163
>500 to 590 microns, Phi 0.75		0.039	0.054	0.053	0.039	0.039
>590 to 630 microns		0.000	0.000	0.000	0.000	0.000
>630 to 696 microns		0.000	0.000	0.000	0.000	0.000
>696 to 710 microns, Phi 0.5		0.000	0.000	0.000	0.000	0.000
>710 to 773 microns		0.000	0.000	0.000	0.000	0.000
>773 to 840 microns, Phi 0.25		0.000	0.000	0.000	0.000	0.000
>840 to 850 microns		0.000	0.000	0.000	0.000	0.000
>850 to 930 microns		0.000	0.000	0.000	0.000	0.000
>930 to 1000 microns, Phi 0		0.000	0.000	0.000	0.000	0.000
1000 to 1100 microns		0.000	0.000	0.000	0.000	0.000
>1100 to 1190 microns, Phi -0.25		0.000	0.000	0.000	0.000	0.000
>1190 to 1300 microns		0.000	0.000	0.000	0.000	0.000
>1300 to 1410 microns, Phi -0.5		0.000	0.000	0.000	0.000	0.000
>1410 to 1680 microns, Phi -0.75		0.000	0.000	0.000	0.000	0.000
>1680 to 2000 microns, Phi -1		0.000	0.000	0.000	0.000	0.000
>2000 microns*		ND	ND	ND	ND	ND
Totals:		100.019	100.031	100.011	100.000	100.007

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-2	E-3	E-3	E-5	E-5
Sample ID:	P549413	P549433	P572964	P549441	P572969	
Analyte	MDL Units	11-JAN-2011	11-JAN-2011	11-JUL-2011	11-JAN-2011	11-JUL-2011
<0.500 microns, Phi 11		0.000	0.000	0.000	0.000	0.000
>0.5 to 1 microns, Phi 10		0.098	0.106	0.000	0.000	0.000
>1 to 1.5 microns, Phi 9.5		0.425	0.502	0.423	0.241	0.394
>1.5 to 2 microns, Phi 9		0.514	0.646	0.556	0.399	0.459
>2.0 to 2.4 microns		0.470	0.599	0.527	0.360	0.408
>2.4 to 2.9 microns, Phi 8.5		0.622	0.793	0.709	0.474	0.532
>2.9 to 3.4 microns		0.648	0.823	0.745	0.492	0.548
>3.4 to 3.9 microns, Phi 8		0.705	0.894	0.820	0.532	0.589
>3.9 to 4 microns		0.145	0.185	0.168	0.110	0.121
>4.0 to 4.3 microns		0.417	0.530	0.483	0.316	0.346
>4.3 to 4.5 microns		0.269	0.341	0.311	0.203	0.222
>4.5 to 5 microns		0.713	0.908	0.827	0.540	0.585
>5 to 5.5 microns		0.702	0.898	0.810	0.535	0.573
>5.5 to 5.7 microns		0.270	0.346	0.312	0.206	0.220
>5.7 to 5.9 microns, Phi 7.5		0.266	0.341	0.306	0.203	0.216
>5.9 to 7.8 microns, Phi 7		2.470	3.180	2.810	1.910	1.990
>7.8 to 8 microns		0.249	0.322	0.278	0.195	0.199
>8 to 8.5 microns		0.596	0.772	0.667	0.468	0.475
>8.5 to 8.9 microns		0.458	0.592	0.510	0.361	0.365
>8.9 to 9.1 microns		0.232	0.299	0.255	0.185	0.184
>9.1 to 9.5 microns		0.449	0.580	0.493	0.358	0.357
>9.5 to 9.8 microns		0.324	0.419	0.357	0.259	0.258
>9.8 to 10.1 microns		0.315	0.406	0.346	0.251	0.250
>10.1 to 10.6 microns		0.538	0.696	0.583	0.435	0.425
>10.6 to 11.1 microns		0.513	0.664	0.556	0.415	0.405
>11.1 to 11.3 microns		0.199	0.257	0.215	0.161	0.157
>11.3 to 11.7 microns, Phi 6.5		0.389	0.501	0.418	0.317	0.308
>11.7 to 14 microns		2.050	2.600	2.150	1.710	1.630
>14 to 14.8 microns		0.652	0.816	0.671	0.551	0.518
>14.8 to 15.6 microns		0.632	0.775	0.637	0.540	0.504
>15.6 to 16 microns		0.310	0.373	0.307	0.267	0.249
>16 to 20 microns		2.790	3.280	2.700	2.450	2.260
>20 to 23 microns, Phi 5.5		1.850	2.030	1.680	1.670	1.520
>23 to 27 microns		2.280	2.300	1.960	2.120	1.930
>27 to 31 microns, Phi 5		2.170	1.980	1.740	2.070	1.910
>31 to 32 microns		0.544	0.458	0.414	0.526	0.493
>32 to 35.6 microns		1.930	1.550	1.420	1.890	1.790
>35.6 to 37 microns, Phi 4.75		0.767	0.570	0.536	0.759	0.730
>37 to 39.6 microns		1.390	1.010	0.956	1.380	1.330
>39.6 to 43.6 microns		2.300	1.510	1.470	2.350	2.310
>43.6 to 44 microns, Phi 4.5		0.218	0.143	0.139	0.223	0.220
>44 to 45 microns		0.544	0.353	0.344	0.556	0.550
>45 to 46.4 microns		0.887	0.517	0.517	0.937	0.944
>46.4 to 53 microns, Phi 4.25		4.020	2.290	2.300	4.290	4.340
>53 to 62.5 microns, Phi 4		6.060	3.150	3.240	6.760	6.960
>62.5 to 64 microns		0.960	0.480	0.501	1.100	1.140
>64 to 71.7 microns		4.900	2.430	2.560	5.700	5.950
>71.7 to 74 microns		1.440	0.710	0.750	1.690	1.780
>74 to 79.6 microns		3.430	1.720	1.830	4.070	4.280
>79.6 to 87.6 microns		4.720	2.430	2.590	5.670	5.960

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-2	E-3	E-3	E-5	E-5
Sample ID:		P549413	P549433	P572964	P549441	P572969
Analyte	MDL Units	11-JAN-2011	11-JAN-2011	11-JUL-2011	11-JAN-2011	11-JUL-2011
>87.6 to 88 microns, Phi 3.5		0.224	0.116	0.123	0.270	0.283
>88 to 90 microns		1.140	0.637	0.678	1.370	1.430
>90 to 105 microns, Phi 3.25		7.900	4.760	5.060	9.410	9.790
>105 to 125 microns, Phi 3		8.720	6.730	7.090	9.920	10.100
>125 to 149 microns, Phi 2.75		7.810	8.340	8.750	8.130	7.970
>149 to 160 microns		2.600	3.750	3.950	2.450	2.330
>160 to 177 microns, Phi 2.5		3.290	5.410	5.720	2.950	2.750
>177 to 197 microns		2.640	5.500	5.910	2.140	1.940
>197 to 210 microns, Phi 2.25		1.180	2.820	3.090	0.895	0.796
>210 to 217 microns		0.540	1.370	1.520	0.398	0.351
>217 to 245 microns		1.570	4.170	4.690	1.130	0.989
>245 to 250 microns, Phi 2		0.205	0.574	0.659	0.142	0.123
>250 to 300 microns, Phi 1.75		1.290	3.560	4.190	0.871	0.756
>300 to 320 microns		0.226	0.549	0.674	0.151	0.132
>320 to 350 microns, Phi 1.5		0.284	0.673	0.828	0.191	0.168
>350 to 360 microns		0.058	0.115	0.142	0.040	0.036
>360 to 400 microns		0.205	0.401	0.498	0.142	0.129
>400 to 420 microns, Phi 1.25		0.065	0.104	0.128	0.048	0.044
>420 to 440 microns		0.062	0.100	0.122	0.045	0.042
>440 to 500 microns, Phi 1		0.133	0.188	0.226	0.103	0.023
>500 to 590 microns, Phi 0.75		0.033	0.044	0.053	0.026	0.000
>590 to 630 microns		0.000	0.000	0.000	0.000	0.000
>630 to 696 microns		0.000	0.000	0.000	0.000	0.000
>696 to 710 microns, Phi 0.5		0.000	0.000	0.000	0.000	0.000
>710 to 773 microns		0.000	0.000	0.000	0.000	0.000
>773 to 840 microns, Phi 0.25		0.000	0.000	0.000	0.000	0.000
>840 to 850 microns		0.000	0.000	0.000	0.000	0.000
>850 to 930 microns		0.000	0.000	0.000	0.000	0.000
>930 to 1000 microns, Phi 0		0.000	0.000	0.000	0.000	0.000
1000 to 1100 microns		0.000	0.000	0.000	0.000	0.000
>1100 to 1190 microns, Phi -0.25		0.000	0.000	0.000	0.000	0.000
>1190 to 1300 microns		0.000	0.000	0.000	0.000	0.000
>1300 to 1410 microns, Phi -0.5		0.000	0.000	0.000	0.000	0.000
>1410 to 1680 microns, Phi -0.75		0.000	0.000	0.000	0.000	0.000
>1680 to 2000 microns, Phi -1		0.000	0.000	0.000	0.000	0.000
>2000 microns*		ND	1.34	ND	1.24	ND
Totals:		100.015	101.326	99.998	101.267	100.066

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-7	E-7	E-8	E-8	E-9
Sample ID:	P549184	P573387	P549190	P572977	P549200	
Analyte	MDL Units	10-JAN-2011	13-JUL-2011	10-JAN-2011	11-JUL-2011	10-JAN-2011
<0.500 microns, Phi 11		0.000	0.000	0.000	0.000	0.000
>0.5 to 1 microns, Phi 10		0.000	0.100	0.000	0.000	0.100
>1 to 1.5 microns, Phi 9.5		0.404	0.426	0.246	0.367	0.444
>1.5 to 2 microns, Phi 9		0.490	0.510	0.412	0.424	0.560
>2.0 to 2.4 microns		0.449	0.464	0.378	0.378	0.529
>2.4 to 2.9 microns, Phi 8.5		0.597	0.615	0.507	0.496	0.716
>2.9 to 3.4 microns		0.626	0.643	0.536	0.514	0.759
>3.4 to 3.9 microns, Phi 8		0.686	0.702	0.590	0.555	0.844
>3.9 to 4 microns		0.142	0.146	0.123	0.114	0.175
>4.0 to 4.3 microns		0.408	0.418	0.353	0.328	0.501
>4.3 to 4.5 microns		0.263	0.269	0.227	0.211	0.323
>4.5 to 5 microns		0.702	0.718	0.608	0.557	0.864
>5 to 5.5 microns		0.694	0.711	0.601	0.546	0.849
>5.5 to 5.7 microns		0.267	0.274	0.232	0.210	0.327
>5.7 to 5.9 microns, Phi 7.5		0.263	0.270	0.228	0.206	0.321
>5.9 to 7.8 microns, Phi 7		2.460	2.530	2.130	1.900	2.960
>7.8 to 8 microns		0.250	0.258	0.214	0.190	0.292
>8 to 8.5 microns		0.598	0.617	0.512	0.456	0.699
>8.5 to 8.9 microns		0.460	0.475	0.393	0.350	0.535
>8.9 to 9.1 microns		0.234	0.242	0.199	0.177	0.266
>9.1 to 9.5 microns		0.453	0.468	0.384	0.342	0.516
>9.5 to 9.8 microns		0.328	0.338	0.278	0.247	0.373
>9.8 to 10.1 microns		0.318	0.328	0.269	0.240	0.362
>10.1 to 10.6 microns		0.546	0.565	0.458	0.408	0.605
>10.6 to 11.1 microns		0.521	0.539	0.437	0.389	0.577
>11.1 to 11.3 microns		0.202	0.209	0.170	0.151	0.224
>11.3 to 11.7 microns, Phi 6.5		0.397	0.410	0.331	0.295	0.433
>11.7 to 14 microns		2.110	2.190	1.730	1.560	2.220
>14 to 14.8 microns		0.676	0.699	0.549	0.496	0.691
>14.8 to 15.6 microns		0.661	0.683	0.531	0.483	0.658
>15.6 to 16 microns		0.327	0.337	0.260	0.238	0.318
>16 to 20 microns		2.980	3.070	2.340	2.160	2.810
>20 to 23 microns, Phi 5.5		2.030	2.080	1.540	1.450	1.770
>23 to 27 microns		2.600	2.640	1.910	1.850	2.130
>27 to 31 microns, Phi 5		2.580	2.610	1.860	1.840	2.010
>31 to 32 microns		0.668	0.672	0.476	0.476	0.506
>32 to 35.6 microns		2.420	2.430	1.730	1.730	1.820
>35.6 to 37 microns, Phi 4.75		0.989	0.990	0.705	0.712	0.735
>37 to 39.6 microns		1.800	1.800	1.290	1.300	1.340
>39.6 to 43.6 microns		3.100	3.090	2.250	2.280	2.310
>43.6 to 44 microns, Phi 4.5		0.294	0.293	0.214	0.217	0.219
>44 to 45 microns		0.735	0.733	0.536	0.543	0.549
>45 to 46.4 microns		1.230	1.220	0.933	0.945	0.939
>46.4 to 53 microns, Phi 4.25		5.600	5.550	4.310	4.360	4.310
>53 to 62.5 microns, Phi 4		8.410	8.300	7.030	7.120	6.820
>62.5 to 64 microns		1.310	1.290	1.160	1.180	1.100
>64 to 71.7 microns		6.490	6.390	6.090	6.180	5.640
>71.7 to 74 microns		1.850	1.830	1.830	1.860	1.660
>74 to 79.6 microns		4.260	4.200	4.410	4.480	3.920
>79.6 to 87.6 microns		5.540	5.460	6.150	6.260	5.310

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-7 P549184	E-7 P573387	E-8 P549190	E-8 P572977	E-9 P549200	
Sample ID:		MDL Units	10-JAN-2011	13-JUL-2011	10-JAN-2011	11-JUL-2011	10-JAN-2011
Analyte							
>87.6 to 88 microns, Phi 3.5		0.264	0.260	0.293	0.298	0.253	
>88 to 90 microns		1.230	1.210	1.470	1.500	1.230	
>90 to 105 microns, Phi 3.25		7.970	7.850	10.100	10.200	8.250	
>105 to 125 microns, Phi 3		7.340	7.220	10.200	10.300	8.200	
>125 to 149 microns, Phi 2.75		5.310	5.220	7.790	7.930	6.530	
>149 to 160 microns		1.460	1.450	2.190	2.240	2.000	
>160 to 177 microns, Phi 2.5		1.690	1.670	2.550	2.610	2.440	
>177 to 197 microns		1.170	1.160	1.740	1.800	1.870	
>197 to 210 microns, Phi 2.25		0.477	0.477	0.700	0.730	0.826	
>210 to 217 microns		0.210	0.211	0.306	0.320	0.378	
>217 to 245 microns		0.596	0.600	0.854	0.901	1.110	
>245 to 250 microns, Phi 2		0.075	0.076	0.105	0.112	0.147	
>250 to 300 microns, Phi 1.75		0.472	0.479	0.641	0.689	0.945	
>300 to 320 microns		0.088	0.091	0.112	0.123	0.177	
>320 to 350 microns, Phi 1.5		0.113	0.116	0.142	0.156	0.225	
>350 to 360 microns		0.026	0.026	0.031	0.034	0.048	
>360 to 400 microns		0.082	0.084	0.110	0.121	0.171	
>400 to 420 microns, Phi 1.25		0.000	0.000	0.038	0.042	0.056	
>420 to 440 microns		0.000	0.000	0.037	0.040	0.054	
>440 to 500 microns, Phi 1		0.000	0.000	0.020	0.022	0.119	
>500 to 590 microns, Phi 0.75		0.000	0.000	0.000	0.000	0.030	
>590 to 630 microns		0.000	0.000	0.000	0.000	0.000	
>630 to 696 microns		0.000	0.000	0.000	0.000	0.000	
>696 to 710 microns, Phi 0.5		0.000	0.000	0.000	0.000	0.000	
>710 to 773 microns		0.000	0.000	0.000	0.000	0.000	
>773 to 840 microns, Phi 0.25		0.000	0.000	0.000	0.000	0.000	
>840 to 850 microns		0.000	0.000	0.000	0.000	0.000	
>850 to 930 microns		0.000	0.000	0.000	0.000	0.000	
>930 to 1000 microns, Phi 0		0.000	0.000	0.000	0.000	0.000	
1000 to 1100 microns		0.000	0.000	0.000	0.000	0.000	
>1100 to 1190 microns, Phi -0.25		0.000	0.000	0.000	0.000	0.000	
>1190 to 1300 microns		0.000	0.000	0.000	0.000	0.000	
>1300 to 1410 microns, Phi -0.5		0.000	0.000	0.000	0.000	0.000	
>1410 to 1680 microns, Phi -0.75		0.000	0.000	0.000	0.000	0.000	
>1680 to 2000 microns, Phi -1		0.000	0.000	0.000	0.000	0.000	
>2000 microns*		ND	ND	ND	ND	1.84	
Totals:		99.991	100.002	100.079	99.939	101.838	

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-11	E-11	E-14	E-14	E-15
Sample ID:	P549165	P572956	P549176	P573395	P549177	
Analyte	MDL Units	10-JAN-2011	11-JUL-2011	10-JAN-2011	13-JUL-2011	10-JAN-2011
<0.500 microns, Phi 11		0.000	0.000	0.000	0.000	0.000
>0.5 to 1 microns, Phi 10		0.000	0.000	0.000	0.000	0.000
>1 to 1.5 microns, Phi 9.5		0.250	0.229	0.220	0.236	0.248
>1.5 to 2 microns, Phi 9		0.417	0.380	0.371	0.378	0.410
>2.0 to 2.4 microns		0.381	0.347	0.344	0.333	0.373
>2.4 to 2.9 microns, Phi 8.5		0.507	0.462	0.463	0.432	0.495
>2.9 to 3.4 microns		0.531	0.486	0.492	0.442	0.517
>3.4 to 3.9 microns, Phi 8		0.581	0.532	0.545	0.472	0.565
>3.9 to 4 microns		0.120	0.111	0.113	0.096	0.116
>4.0 to 4.3 microns		0.344	0.318	0.324	0.275	0.334
>4.3 to 4.5 microns		0.221	0.205	0.209	0.177	0.215
>4.5 to 5 microns		0.588	0.546	0.558	0.463	0.571
>5 to 5.5 microns		0.576	0.539	0.548	0.450	0.560
>5.5 to 5.7 microns		0.222	0.208	0.211	0.173	0.215
>5.7 to 5.9 microns, Phi 7.5		0.218	0.204	0.207	0.169	0.212
>5.9 to 7.8 microns, Phi 7		2.010	1.910	1.910	1.540	1.950
>7.8 to 8 microns		0.199	0.192	0.189	0.151	0.193
>8 to 8.5 microns		0.477	0.460	0.452	0.363	0.463
>8.5 to 8.9 microns		0.366	0.354	0.346	0.278	0.355
>8.9 to 9.1 microns		0.184	0.179	0.173	0.139	0.178
>9.1 to 9.5 microns		0.355	0.347	0.334	0.269	0.344
>9.5 to 9.8 microns		0.257	0.251	0.241	0.195	0.249
>9.8 to 10.1 microns		0.249	0.243	0.234	0.189	0.241
>10.1 to 10.6 microns		0.421	0.415	0.392	0.318	0.407
>10.6 to 11.1 microns		0.401	0.395	0.374	0.303	0.388
>11.1 to 11.3 microns		0.155	0.153	0.145	0.117	0.150
>11.3 to 11.7 microns, Phi 6.5		0.304	0.300	0.282	0.230	0.293
>11.7 to 14 microns		1.590	1.590	1.460	1.210	1.530
>14 to 14.8 microns		0.502	0.506	0.456	0.381	0.481
>14.8 to 15.6 microns		0.486	0.493	0.438	0.371	0.465
>15.6 to 16 microns		0.239	0.243	0.213	0.183	0.227
>16 to 20 microns		2.150	2.200	1.900	1.650	2.040
>20 to 23 microns, Phi 5.5		1.430	1.490	1.230	1.110	1.340
>23 to 27 microns		1.800	1.890	1.520	1.420	1.670
>27 to 31 microns, Phi 5		1.780	1.900	1.490	1.430	1.640
>31 to 32 microns		0.462	0.497	0.384	0.375	0.424
>32 to 35.6 microns		1.690	1.820	1.410	1.380	1.550
>35.6 to 37 microns, Phi 4.75		0.697	0.758	0.583	0.578	0.639
>37 to 39.6 microns		1.280	1.390	1.070	1.070	1.170
>39.6 to 43.6 microns		2.270	2.480	1.940	1.930	2.090
>43.6 to 44 microns, Phi 4.5		0.215	0.235	0.184	0.183	0.198
>44 to 45 microns		0.540	0.590	0.462	0.461	0.498
>45 to 46.4 microns		0.952	1.040	0.841	0.840	0.891
>46.4 to 53 microns, Phi 4.25		4.410	4.800	3.950	3.940	4.150
>53 to 62.5 microns, Phi 4		7.280	7.830	6.890	6.880	7.080
>62.5 to 64 microns		1.210	1.280	1.180	1.180	1.190
>64 to 71.7 microns		6.340	6.670	6.400	6.430	6.410
>71.7 to 74 microns		1.900	1.980	1.970	1.980	1.950
>74 to 79.6 microns		4.570	4.720	4.830	4.880	4.750
>79.6 to 87.6 microns		6.370	6.470	6.930	7.030	6.730

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-11	E-11	E-14	E-14	E-15
Sample ID:	P549165	P572956	P549176	P573395	P549177	
Analyte	MDL Units	10-JAN-2011	11-JUL-2011	10-JAN-2011	13-JUL-2011	10-JAN-2011
>87.6 to 88 microns, Phi 3.5		0.303	0.308	0.330	0.334	0.320
>88 to 90 microns		1.510	1.510	1.690	1.720	1.620
>90 to 105 microns, Phi 3.25		10.300	10.100	11.600	11.900	11.000
>105 to 125 microns, Phi 3		10.200	9.760	11.500	12.000	10.900
>125 to 149 microns, Phi 2.75		7.720	7.180	8.400	8.880	8.000
>149 to 160 microns		2.170	1.970	2.250	2.410	2.160
>160 to 177 microns, Phi 2.5		2.510	2.260	2.550	2.740	2.460
>177 to 197 microns		1.720	1.530	1.670	1.820	1.630
>197 to 210 microns, Phi 2.25		0.699	0.615	0.654	0.722	0.646
>210 to 217 microns		0.306	0.268	0.281	0.313	0.280
>217 to 245 microns		0.861	0.751	0.776	0.869	0.779
>245 to 250 microns, Phi 2		0.107	0.093	0.094	0.106	0.095
>250 to 300 microns, Phi 1.75		0.659	0.571	0.564	0.649	0.582
>300 to 320 microns		0.117	0.102	0.097	0.114	0.103
>320 to 350 microns, Phi 1.5		0.149	0.130	0.123	0.145	0.131
>350 to 360 microns		0.032	0.029	0.027	0.031	0.028
>360 to 400 microns		0.116	0.103	0.086	0.113	0.092
>400 to 420 microns, Phi 1.25		0.040	0.037	0.000	0.040	0.000
>420 to 440 microns		0.038	0.035	0.000	0.038	0.000
>440 to 500 microns, Phi 1		0.021	0.019	0.000	0.021	0.000
>500 to 590 microns, Phi 0.75		0.000	0.000	0.000	0.000	0.000
>590 to 630 microns		0.000	0.000	0.000	0.000	0.000
>630 to 696 microns		0.000	0.000	0.000	0.000	0.000
>696 to 710 microns, Phi 0.5		0.000	0.000	0.000	0.000	0.000
>710 to 773 microns		0.000	0.000	0.000	0.000	0.000
>773 to 840 microns, Phi 0.25		0.000	0.000	0.000	0.000	0.000
>840 to 850 microns		0.000	0.000	0.000	0.000	0.000
>850 to 930 microns		0.000	0.000	0.000	0.000	0.000
>930 to 1000 microns, Phi 0		0.000	0.000	0.000	0.000	0.000
1000 to 1100 microns		0.000	0.000	0.000	0.000	0.000
>1100 to 1190 microns, Phi -0.25		0.000	0.000	0.000	0.000	0.000
>1190 to 1300 microns		0.000	0.000	0.000	0.000	0.000
>1300 to 1410 microns, Phi -0.5		0.000	0.000	0.000	0.000	0.000
>1410 to 1680 microns, Phi -0.75		0.000	0.000	0.000	0.000	0.000
>1680 to 2000 microns, Phi -1		0.000	0.000	0.000	0.000	0.000
>2000 microns*		ND	ND	ND	ND	ND
Totals:		100.075	100.009	100.100	100.045	99.981

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-15	E-17	E-17	E-19	E-19
Sample ID:	P573403	P549155	P573404	P549161	P573410	
Analyte	MDL Units	13-JUL-2011	10-JAN-2011	13-JUL-2011	10-JAN-2011	13-JUL-2011
<0.500 microns, Phi 11		0.000	0.000	0.000	0.000	0.000
>0.5 to 1 microns, Phi 10		0.214	0.000	0.000	0.098	0.556
>1 to 1.5 microns, Phi 9.5		0.464	0.369	0.239	0.415	0.495
>1.5 to 2 microns, Phi 9		0.544	0.438	0.402	0.493	0.557
>2.0 to 2.4 microns		0.488	0.398	0.371	0.448	0.488
>2.4 to 2.9 microns, Phi 8.5		0.639	0.529	0.496	0.595	0.631
>2.9 to 3.4 microns		0.658	0.555	0.523	0.623	0.645
>3.4 to 3.9 microns, Phi 8		0.710	0.607	0.575	0.680	0.689
>3.9 to 4 microns		0.145	0.126	0.119	0.141	0.141
>4.0 to 4.3 microns		0.415	0.362	0.340	0.404	0.405
>4.3 to 4.5 microns		0.266	0.233	0.219	0.260	0.260
>4.5 to 5 microns		0.701	0.621	0.583	0.693	0.685
>5 to 5.5 microns		0.681	0.612	0.571	0.685	0.674
>5.5 to 5.7 microns		0.261	0.236	0.220	0.264	0.259
>5.7 to 5.9 microns, Phi 7.5		0.256	0.232	0.216	0.259	0.254
>5.9 to 7.8 microns, Phi 7		2.320	2.160	1.980	2.420	2.360
>7.8 to 8 microns		0.227	0.216	0.196	0.246	0.239
>8 to 8.5 microns		0.544	0.517	0.469	0.589	0.572
>8.5 to 8.9 microns		0.416	0.397	0.359	0.453	0.440
>8.9 to 9.1 microns		0.208	0.200	0.180	0.231	0.224
>9.1 to 9.5 microns		0.401	0.387	0.348	0.447	0.434
>9.5 to 9.8 microns		0.290	0.280	0.251	0.323	0.314
>9.8 to 10.1 microns		0.281	0.272	0.244	0.313	0.305
>10.1 to 10.6 microns		0.470	0.461	0.409	0.539	0.524
>10.6 to 11.1 microns		0.449	0.439	0.390	0.514	0.500
>11.1 to 11.3 microns		0.174	0.170	0.151	0.199	0.194
>11.3 to 11.7 microns, Phi 6.5		0.338	0.333	0.295	0.392	0.382
>11.7 to 14 microns		1.740	1.740	1.530	2.100	2.050
>14 to 14.8 microns		0.545	0.550	0.482	0.673	0.661
>14.8 to 15.6 microns		0.523	0.532	0.465	0.661	0.652
>15.6 to 16 microns		0.255	0.261	0.227	0.328	0.324
>16 to 20 microns		2.270	2.340	2.040	3.000	2.990
>20 to 23 microns, Phi 5.5		1.470	1.540	1.340	2.070	2.080
>23 to 27 microns		1.790	1.910	1.680	2.690	2.730
>27 to 31 microns, Phi 5		1.730	1.870	1.670	2.730	2.770
>31 to 32 microns		0.439	0.483	0.434	0.717	0.728
>32 to 35.6 microns		1.590	1.760	1.590	2.620	2.660
>35.6 to 37 microns, Phi 4.75		0.646	0.723	0.661	1.090	1.100
>37 to 39.6 microns		1.180	1.330	1.220	1.990	2.000
>39.6 to 43.6 microns		2.060	2.350	2.180	3.470	3.480
>43.6 to 44 microns, Phi 4.5		0.196	0.223	0.207	0.329	0.330
>44 to 45 microns		0.491	0.558	0.520	0.823	0.824
>45 to 46.4 microns		0.861	0.983	0.930	1.390	1.390
>46.4 to 53 microns, Phi 4.25		4.000	4.550	4.320	6.320	6.280
>53 to 62.5 microns, Phi 4		6.690	7.470	7.260	9.400	9.290
>62.5 to 64 microns		1.120	1.230	1.210	1.450	1.430
>64 to 71.7 microns		5.990	6.450	6.420	7.010	6.930
>71.7 to 74 microns		1.820	1.930	1.940	1.970	1.950
>74 to 79.6 microns		4.430	4.620	4.680	4.430	4.380
>79.6 to 87.6 microns		6.280	6.380	6.560	5.570	5.510

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-15	E-17	E-17	E-19	E-19
Sample ID:	P573403	P549155	P573404	P549161	P573410	
Analyte	MDL Units	13-JUL-2011	10-JAN-2011	13-JUL-2011	10-JAN-2011	13-JUL-2011
>87.6 to 88 microns, Phi 3.5		0.299	0.304	0.312	0.265	0.262
>88 to 90 microns		1.520	1.500	1.570	1.180	1.170
>90 to 105 microns, Phi 3.25		10.400	10.100	10.700	7.400	7.320
>105 to 125 microns, Phi 3		10.400	9.800	10.600	6.300	6.230
>125 to 149 microns, Phi 2.75		7.750	7.170	7.890	4.260	4.240
>149 to 160 microns		2.120	1.950	2.170	1.140	1.140
>160 to 177 microns, Phi 2.5		2.430	2.220	2.490	1.300	1.300
>177 to 197 microns		1.620	1.490	1.670	0.892	0.893
>197 to 210 microns, Phi 2.25		0.648	0.594	0.670	0.369	0.369
>210 to 217 microns		0.281	0.258	0.291	0.163	0.163
>217 to 245 microns		0.783	0.722	0.813	0.469	0.468
>245 to 250 microns, Phi 2		0.096	0.089	0.100	0.060	0.060
>250 to 300 microns, Phi 1.75		0.586	0.547	0.612	0.386	0.383
>300 to 320 microns		0.103	0.098	0.108	0.076	0.075
>320 to 350 microns, Phi 1.5		0.131	0.125	0.138	0.098	0.097
>350 to 360 microns		0.028	0.028	0.030	0.023	0.022
>360 to 400 microns		0.094	0.089	0.108	0.073	0.072
>400 to 420 microns, Phi 1.25		0.010	0.000	0.038	0.000	0.000
>420 to 440 microns		0.009	0.000	0.036	0.000	0.000
>440 to 500 microns, Phi 1		0.005	0.000	0.020	0.000	0.000
>500 to 590 microns, Phi 0.75		0.000	0.000	0.000	0.000	0.000
>590 to 630 microns		0.000	0.000	0.000	0.000	0.000
>630 to 696 microns		0.000	0.000	0.000	0.000	0.000
>696 to 710 microns, Phi 0.5		0.000	0.000	0.000	0.000	0.000
>710 to 773 microns		0.000	0.000	0.000	0.000	0.000
>773 to 840 microns, Phi 0.25		0.000	0.000	0.000	0.000	0.000
>840 to 850 microns		0.000	0.000	0.000	0.000	0.000
>850 to 930 microns		0.000	0.000	0.000	0.000	0.000
>930 to 1000 microns, Phi 0		0.000	0.000	0.000	0.000	0.000
1000 to 1100 microns		0.000	0.000	0.000	0.000	0.000
>1100 to 1190 microns, Phi -0.25		0.000	0.000	0.000	0.000	0.000
>1190 to 1300 microns		0.000	0.000	0.000	0.000	0.000
>1300 to 1410 microns, Phi -0.5		0.000	0.000	0.000	0.000	0.000
>1410 to 1680 microns, Phi -0.75		0.000	0.000	0.000	0.000	0.000
>1680 to 2000 microns, Phi -1		0.000	0.000	0.000	0.000	0.000
>2000 microns*		ND	1.87	ND	ND	ND
Totals:		99.989	101.887	100.078	100.009	100.030

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-20	E-20	E-21	E-21	E-23
Sample ID:	P548404	P573417	P548412	P573426	P549419	
Analyte	MDL Units	06-JAN-2011	13-JUL-2011	06-JAN-2011	13-JUL-2011	11-JAN-2011
<0.500 microns, Phi 11		0.000	0.000	0.000	0.000	0.000
>0.5 to 1 microns, Phi 10		0.000	0.000	0.000	0.000	0.105
>1 to 1.5 microns, Phi 9.5		0.393	0.366	0.256	0.379	0.438
>1.5 to 2 microns, Phi 9		0.468	0.434	0.432	0.452	0.513
>2.0 to 2.4 microns		0.424	0.392	0.399	0.413	0.462
>2.4 to 2.9 microns, Phi 8.5		0.562	0.518	0.535	0.552	0.610
>2.9 to 3.4 microns		0.588	0.541	0.565	0.582	0.634
>3.4 to 3.9 microns, Phi 8		0.642	0.588	0.622	0.640	0.688
>3.9 to 4 microns		0.133	0.121	0.129	0.133	0.142
>4.0 to 4.3 microns		0.381	0.348	0.370	0.381	0.408
>4.3 to 4.5 microns		0.246	0.224	0.239	0.246	0.263
>4.5 to 5 microns		0.654	0.594	0.638	0.656	0.697
>5 to 5.5 microns		0.644	0.583	0.628	0.646	0.687
>5.5 to 5.7 microns		0.248	0.225	0.242	0.249	0.265
>5.7 to 5.9 microns, Phi 7.5		0.244	0.221	0.238	0.244	0.260
>5.9 to 7.8 microns, Phi 7		2.270	2.040	2.210	2.260	2.420
>7.8 to 8 microns		0.228	0.205	0.221	0.225	0.243
>8 to 8.5 microns		0.546	0.490	0.529	0.538	0.583
>8.5 to 8.9 microns		0.419	0.376	0.405	0.412	0.448
>8.9 to 9.1 microns		0.212	0.190	0.204	0.206	0.227
>9.1 to 9.5 microns		0.410	0.368	0.395	0.399	0.439
>9.5 to 9.8 microns		0.296	0.266	0.285	0.289	0.317
>9.8 to 10.1 microns		0.288	0.258	0.277	0.280	0.308
>10.1 to 10.6 microns		0.490	0.439	0.468	0.471	0.526
>10.6 to 11.1 microns		0.467	0.419	0.447	0.449	0.502
>11.1 to 11.3 microns		0.181	0.162	0.173	0.174	0.194
>11.3 to 11.7 microns, Phi 6.5		0.354	0.318	0.338	0.339	0.381
>11.7 to 14 microns		1.870	1.680	1.760	1.750	2.020
>14 to 14.8 microns		0.593	0.536	0.554	0.549	0.643
>14.8 to 15.6 microns		0.575	0.522	0.534	0.526	0.626
>15.6 to 16 microns		0.283	0.258	0.260	0.256	0.309
>16 to 20 microns		2.550	2.340	2.330	2.280	2.800
>20 to 23 microns, Phi 5.5		1.700	1.580	1.510	1.460	1.890
>23 to 27 microns		2.140	2.020	1.860	1.780	2.390
>27 to 31 microns, Phi 5		2.110	2.020	1.780	1.710	2.370
>31 to 32 microns		0.543	0.527	0.453	0.436	0.614
>32 to 35.6 microns		1.970	1.930	1.640	1.580	2.230
>35.6 to 37 microns, Phi 4.75		0.809	0.797	0.665	0.645	0.914
>37 to 39.6 microns		1.480	1.460	1.220	1.180	1.670
>39.6 to 43.6 microns		2.590	2.580	2.120	2.080	2.900
>43.6 to 44 microns, Phi 4.5		0.246	0.245	0.202	0.197	0.276
>44 to 45 microns		0.616	0.614	0.506	0.495	0.689
>45 to 46.4 microns		1.070	1.070	0.889	0.877	1.180
>46.4 to 53 microns, Phi 4.25		4.910	4.930	4.130	4.080	5.380
>53 to 62.5 microns, Phi 4		7.880	7.950	6.960	6.900	8.330
>62.5 to 64 microns		1.280	1.300	1.170	1.160	1.330
>64 to 71.7 microns		6.610	6.700	6.280	6.250	6.660
>71.7 to 74 microns		1.960	1.990	1.910	1.900	1.930
>74 to 79.6 microns		4.630	4.710	4.660	4.640	4.480
>79.6 to 87.6 microns		6.290	6.430	6.600	6.590	5.910

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-20	E-20	E-21	E-21	E-23
Sample ID:	P548404	P573417	P548412	P573426	P549419	
Analyte	MDL Units	06-JAN-2011	13-JUL-2011	06-JAN-2011	13-JUL-2011	11-JAN-2011
>87.6 to 88 microns, Phi 3.5		0.299	0.306	0.314	0.314	0.281
>88 to 90 microns		1.450	1.490	1.580	1.590	1.320
>90 to 105 microns, Phi 3.25		9.590	9.890	10.800	10.800	8.580
>105 to 125 microns, Phi 3		8.960	9.340	10.500	10.600	7.790
>125 to 149 microns, Phi 2.75		6.320	6.670	7.560	7.620	5.460
>149 to 160 microns		1.670	1.780	2.000	2.020	1.460
>160 to 177 microns, Phi 2.5		1.890	2.020	2.250	2.270	1.670
>177 to 197 microns		1.240	1.340	1.450	1.470	1.120
>197 to 210 microns, Phi 2.25		0.491	0.533	0.566	0.575	0.455
>210 to 217 microns		0.212	0.231	0.243	0.247	0.199
>217 to 245 microns		0.591	0.647	0.670	0.682	0.564
>245 to 250 microns, Phi 2		0.072	0.080	0.081	0.082	0.071
>250 to 300 microns, Phi 1.75		0.446	0.492	0.491	0.501	0.445
>300 to 320 microns		0.080	0.089	0.086	0.088	0.084
>320 to 350 microns, Phi 1.5		0.103	0.114	0.110	0.112	0.108
>350 to 360 microns		0.023	0.025	0.024	0.025	0.024
>360 to 400 microns		0.074	0.082	0.078	0.079	0.079
>400 to 420 microns, Phi 1.25		0.000	0.000	0.000	0.000	0.000
>420 to 440 microns		0.000	0.000	0.000	0.000	0.000
>440 to 500 microns, Phi 1		0.000	0.000	0.000	0.000	0.000
>500 to 590 microns, Phi 0.75		0.000	0.000	0.000	0.000	0.000
>590 to 630 microns		0.000	0.000	0.000	0.000	0.000
>630 to 696 microns		0.000	0.000	0.000	0.000	0.000
>696 to 710 microns, Phi 0.5		0.000	0.000	0.000	0.000	0.000
>710 to 773 microns		0.000	0.000	0.000	0.000	0.000
>773 to 840 microns, Phi 0.25		0.000	0.000	0.000	0.000	0.000
>840 to 850 microns		0.000	0.000	0.000	0.000	0.000
>850 to 930 microns		0.000	0.000	0.000	0.000	0.000
>930 to 1000 microns, Phi 0		0.000	0.000	0.000	0.000	0.000
1000 to 1100 microns		0.000	0.000	0.000	0.000	0.000
>1100 to 1190 microns, Phi -0.25		0.000	0.000	0.000	0.000	0.000
>1190 to 1300 microns		0.000	0.000	0.000	0.000	0.000
>1300 to 1410 microns, Phi -0.5		0.000	0.000	0.000	0.000	0.000
>1410 to 1680 microns, Phi -0.75		0.000	0.000	0.000	0.000	0.000
>1680 to 2000 microns, Phi -1		0.000	0.000	0.000	0.000	0.000
>2000 microns*		ND	ND	ND	ND	ND
Totals:		100.004	100.004	100.041	100.011	100.011

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-23	E-25	E-25	E-26	E-26
Sample ID:	P573475	P548423	P573430	P549427	P573439	
Analyte	MDL Units	13-JUL-2011	06-JAN-2011	13-JUL-2011	11-JAN-2011	13-JUL-2011
<0.500 microns, Phi 11		0.000	0.000	0.000	0.000	0.000
>0.5 to 1 microns, Phi 10		0.000	0.000	0.000	0.102	0.217
>1 to 1.5 microns, Phi 9.5		0.406	0.397	0.405	0.438	0.472
>1.5 to 2 microns, Phi 9		0.485	0.476	0.484	0.526	0.544
>2.0 to 2.4 microns		0.440	0.431	0.439	0.480	0.480
>2.4 to 2.9 microns, Phi 8.5		0.581	0.570	0.580	0.638	0.622
>2.9 to 3.4 microns		0.605	0.593	0.604	0.667	0.636
>3.4 to 3.9 microns, Phi 8		0.658	0.645	0.657	0.729	0.681
>3.9 to 4 microns		0.135	0.133	0.135	0.151	0.139
>4.0 to 4.3 microns		0.388	0.382	0.389	0.433	0.399
>4.3 to 4.5 microns		0.250	0.246	0.250	0.279	0.256
>4.5 to 5 microns		0.662	0.653	0.664	0.742	0.673
>5 to 5.5 microns		0.650	0.642	0.654	0.732	0.660
>5.5 to 5.7 microns		0.250	0.248	0.252	0.282	0.254
>5.7 to 5.9 microns, Phi 7.5		0.246	0.243	0.247	0.277	0.249
>5.9 to 7.8 microns, Phi 7		2.270	2.260	2.300	2.580	2.290
>7.8 to 8 microns		0.227	0.227	0.231	0.260	0.230
>8 to 8.5 microns		0.544	0.545	0.553	0.622	0.552
>8.5 to 8.9 microns		0.418	0.418	0.425	0.478	0.424
>8.9 to 9.1 microns		0.211	0.212	0.215	0.242	0.215
>9.1 to 9.5 microns		0.409	0.411	0.417	0.468	0.417
>9.5 to 9.8 microns		0.295	0.297	0.301	0.338	0.301
>9.8 to 10.1 microns		0.287	0.288	0.293	0.328	0.292
>10.1 to 10.6 microns		0.487	0.492	0.499	0.560	0.500
>10.6 to 11.1 microns		0.465	0.469	0.476	0.534	0.477
>11.1 to 11.3 microns		0.180	0.182	0.185	0.207	0.185
>11.3 to 11.7 microns, Phi 6.5		0.353	0.357	0.362	0.406	0.363
>11.7 to 14 microns		1.870	1.890	1.920	2.140	1.940
>14 to 14.8 microns		0.595	0.604	0.612	0.681	0.621
>14.8 to 15.6 microns		0.580	0.589	0.597	0.661	0.609
>15.6 to 16 microns		0.286	0.291	0.294	0.325	0.302
>16 to 20 microns		2.600	2.640	2.680	2.940	2.760
>20 to 23 microns, Phi 5.5		1.770	1.790	1.810	1.970	1.900
>23 to 27 microns		2.260	2.270	2.300	2.470	2.450
>27 to 31 microns, Phi 5		2.270	2.260	2.290	2.430	2.460
>31 to 32 microns		0.593	0.584	0.592	0.622	0.638
>32 to 35.6 microns		2.160	2.120	2.150	2.250	2.310
>35.6 to 37 microns, Phi 4.75		0.893	0.869	0.882	0.914	0.944
>37 to 39.6 microns		1.630	1.580	1.610	1.670	1.720
>39.6 to 43.6 microns		2.860	2.750	2.800	2.860	2.960
>43.6 to 44 microns, Phi 4.5		0.272	0.261	0.266	0.271	0.281
>44 to 45 microns		0.681	0.653	0.664	0.678	0.702
>45 to 46.4 microns		1.170	1.110	1.130	1.140	1.180
>46.4 to 53 microns, Phi 4.25		5.370	5.070	5.190	5.200	5.380
>53 to 62.5 microns, Phi 4		8.390	7.880	8.060	7.980	8.230
>62.5 to 64 microns		1.340	1.260	1.290	1.270	1.300
>64 to 71.7 microns		6.780	6.390	6.490	6.370	6.560
>71.7 to 74 microns		1.970	1.860	1.890	1.850	1.900
>74 to 79.6 microns		4.580	4.370	4.400	4.300	4.430
>79.6 to 87.6 microns		6.080	5.870	5.860	5.710	5.880

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Grain Size
(all values are in percent distribution)

Annual 2011

Source:		E-23	E-25	E-25	E-26	E-26
Sample ID:	P573475	P548423	P573430	P549427	P573439	
Analyte	MDL Units	13-JUL-2011	06-JAN-2011	13-JUL-2011	11-JAN-2011	13-JUL-2011
>87.6 to 88 microns, Phi 3.5		0.289	0.279	0.279	0.272	0.280
>88 to 90 microns		1.360	1.340	1.330	1.290	1.320
>90 to 105 microns, Phi 3.25		8.890	8.910	8.720	8.470	8.630
>105 to 125 microns, Phi 3		8.120	8.520	8.210	7.850	7.890
>125 to 149 microns, Phi 2.75		5.740	6.340	6.050	5.590	5.540
>149 to 160 microns		1.550	1.780	1.690	1.500	1.480
>160 to 177 microns, Phi 2.5		1.770	2.070	1.970	1.710	1.690
>177 to 197 microns		1.200	1.430	1.370	1.140	1.130
>197 to 210 microns, Phi 2.25		0.486	0.585	0.564	0.457	0.459
>210 to 217 microns		0.213	0.257	0.249	0.199	0.201
>217 to 245 microns		0.604	0.725	0.706	0.559	0.567
>245 to 250 microns, Phi 2		0.076	0.090	0.089	0.069	0.071
>250 to 300 microns, Phi 1.75		0.478	0.560	0.555	0.433	0.446
>300 to 320 microns		0.090	0.101	0.102	0.080	0.084
>320 to 350 microns, Phi 1.5		0.115	0.129	0.130	0.103	0.107
>350 to 360 microns		0.026	0.028	0.029	0.023	0.024
>360 to 400 microns		0.084	0.091	0.104	0.075	0.078
>400 to 420 microns, Phi 1.25		0.000	0.000	0.037	0.000	0.000
>420 to 440 microns		0.000	0.000	0.035	0.000	0.000
>440 to 500 microns, Phi 1		0.000	0.000	0.020	0.000	0.000
>500 to 590 microns, Phi 0.75		0.000	0.000	0.000	0.000	0.000
>590 to 630 microns		0.000	0.000	0.000	0.000	0.000
>630 to 696 microns		0.000	0.000	0.000	0.000	0.000
>696 to 710 microns, Phi 0.5		0.000	0.000	0.000	0.000	0.000
>710 to 773 microns		0.000	0.000	0.000	0.000	0.000
>773 to 840 microns, Phi 0.25		0.000	0.000	0.000	0.000	0.000
>840 to 850 microns		0.000	0.000	0.000	0.000	0.000
>850 to 930 microns		0.000	0.000	0.000	0.000	0.000
>930 to 1000 microns, Phi 0		0.000	0.000	0.000	0.000	0.000
1000 to 1100 microns		0.000	0.000	0.000	0.000	0.000
>1100 to 1190 microns, Phi -0.25		0.000	0.000	0.000	0.000	0.000
>1190 to 1300 microns		0.000	0.000	0.000	0.000	0.000
>1300 to 1410 microns, Phi -0.5		0.000	0.000	0.000	0.000	0.000
>1410 to 1680 microns, Phi -0.75		0.000	0.000	0.000	0.000	0.000
>1680 to 2000 microns, Phi -1		0.000	0.000	0.000	0.000	0.000
>2000 microns*		ND	ND	ND	ND	ND
Totals:		99.993	100.013	100.033	100.021	99.982

*=A value in this field reflects a percentage of 30 grams remaining on a 2000 micron sieve. This value must be subtracted from the total percentage.

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT SEMI-ANNUAL - Grain Size (Sieve)
(all values are in percent distribution)

Annual 2011

Analyte	MDL Units	E-9 P572985	E-2 P572958
<63 microns, Phi<4		3.650	38.800
>63 to 125 microns, Phi>4		0.390	24.900
>125 to 250 microns, Phi>3		2.180	10.800
>250 to 500 microns, Phi>2		22.200	6.830
>500 to 1000 microns, Phi>1		44.300	6.260
>1000 to 2000 microns, Phi>0		21.000	5.090
>2000 microns, Phi>-1		6.240	7.380
Totals:		99.960	100.060

ND=not detected

POINT LOMA WASTEWATER TREATMENT PLANT
OCEAN SEDIMENT ANNUAL SUMMARY
Total Organic Carbon/Total Nitrogen

From 01-JAN-2011 to 31-DEC-2011

Analyte	MDL	Units	A-2	A-5	A-8	A-9	A-15	A-16	B-3
			Avg						
Total Nitrogen	.005	WT%	0.077	0.087	0.078	0.072	0.083	0.084	0.078
Total Organic Carbon	.01	WT%	0.629	0.720	0.627	0.576	0.671	0.697	0.641
Analyte	MDL	Units	B-5	B-8	B-9	B-10	B-11	B-12	E-1
			Avg						
Total Nitrogen	.005	WT%	0.087	0.090	0.070	0.062	0.086	0.064	0.055
Total Organic Carbon	.01	WT%	0.697	0.774	0.643	0.973	2.950	3.450	0.487
Analyte	MDL	Units	E-2	E-3	E-5	E-7	E-8	E-9	E-11
			Avg						
Total Nitrogen	.005	WT%	0.054	0.042	0.048	0.066	0.050	0.059	0.054
Total Organic Carbon	.01	WT%	0.459	0.338	0.397	0.569	0.414	1.030	0.690
Analyte	MDL	Units	E-14	E-15	E-17	E-19	E-20	E-21	E-23
			Avg						
Total Nitrogen	.005	WT%	0.048	0.042	0.057	0.063	0.060	0.057	0.060
Total Organic Carbon	.01	WT%	0.409	0.350	0.479	0.542	0.501	0.479	0.497
Analyte	MDL	Units	E-25	E-26					
			Avg	Avg					
Total Nitrogen	.005	WT%	0.059	0.066					
Total Organic Carbon	.01	WT%	0.491	0.559					

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL OCEAN SEDIMENT - STANDARD
Trace Metals

From: 01-JAN-2011 to: 31-DEC-2011

Source:		A-2	A-5	A-8	A-9	A-15	A-16	B-3
Date:		2011	2011	2011	2011	2011	2011	2011
Analyte:	MDL Units	Average						
Aluminum	2 MG/KG	6490	6870	7080	6940	6710	7000	5250
Antimony	.3 MG/KG	0.42	0.47	0.44	0.46	0.47	0.52	0.51
Arsenic	.33 MG/KG	4.09	5.14	4.88	5.00	4.56	5.27	5.10
Barium	.02 MG/KG	45.0	46.8	49.0	47.6	45.5	46.1	40.5
Beryllium	.01 MG/KG	0.134	0.157	0.149	0.141	0.138	0.142	0.139
Cadmium	.06 MG/KG	0.18	0.21	0.19	0.20	0.19	0.20	0.16
Chromium	.1 MG/KG	13.7	15.6	14.8	14.7	14.2	15.4	14.7
Copper	.2 MG/KG	7.82	9.69	8.51	8.60	8.18	10.50	7.45
Iron	9 MG/KG	9610	10400	10600	10300	10000	10400	9080
Lead	.8 MG/KG	6.28	7.28	6.65	6.89	6.16	6.75	6.73
Manganese	.08 MG/KG	100.0	107.0	107.0	105.0	101.0	103.0	81.2
Mercury	.004 MG/KG	0.037	0.051	0.044	0.055	0.047	0.051	0.038
Nickel	.1 MG/KG	6.71	8.30	7.20	7.08	6.81	6.95	6.85
Selenium	.24 MG/KG	ND						
Silver	.04 MG/KG	ND						
Thallium	.5 MG/KG	ND						
Tin	.3 MG/KG	1.25	1.47	1.38	1.47	1.40	1.41	1.22
Zinc	.25 MG/KG	29.7	34.6	31.5	30.8	30.1	30.8	26.1

Source:		B-5	B-8	B-9	B-10	B-11	B-12	E-1
Date:		2011	2011	2011	2011	2011	2011	2011
Analyte:	MDL Units	Average						
Aluminum	2 MG/KG	7000	8680	5220	4190	5990	5520	6360
Antimony	.3 MG/KG	0.54	0.67	0.47	0.38	0.54	0.49	0.37
Arsenic	.33 MG/KG	4.93	3.74	3.82	3.00	4.85	5.91	3.23
Barium	.02 MG/KG	45.2	53.0	35.6	21.0	32.9	42.7	32.9
Beryllium	.01 MG/KG	0.155	0.194	0.183	0.147	0.204	0.205	0.190
Cadmium	.06 MG/KG	0.14	0.32	0.20	0.12	0.16	0.13	0.14
Chromium	.1 MG/KG	18.3	20.3	16.6	14.6	18.2	18.0	18.2
Copper	.2 MG/KG	7.39	10.90	6.14	4.96	8.34	9.01	7.26
Iron	9 MG/KG	12800	13900	11500	9740	14900	15700	14300
Lead	.8 MG/KG	7.43	8.72	5.99	4.96	7.73	7.54	7.23
Manganese	.08 MG/KG	98.6	118.0	76.7	53.2	118.0	84.9	71.1
Mercury	.004 MG/KG	0.035	0.039	0.026	0.020	0.032	0.017	0.049
Nickel	.1 MG/KG	7.01	10.20	6.79	5.29	8.02	6.44	6.38
Selenium	.24 MG/KG	ND						
Silver	.04 MG/KG	ND						
Thallium	.5 MG/KG	ND	0.50	ND	ND	ND	ND	ND
Tin	.3 MG/KG	1.31	1.98	0.86	0.56	1.01	0.79	1.23
Zinc	.25 MG/KG	32.0	36.9	29.7	24.9	35.1	32.1	33.7

ND= not detected

NA= not analyzed

NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL OCEAN SEDIMENT - STANDARD
Trace Metals

From: 01-JAN-2011 to: 31-DEC-2011

Source:		E-2	E-3	E-5	E-7	E-8	E-9	E-11
Date:		2011	2011	2011	2011	2011	2011	2011
Analyte:	MDL Units	Average						
Aluminum	2 MG/KG	8350	5710	6700	5380	7220	6330	6990
Antimony	.3 MG/KG	0.57	0.50	0.46	0.44	0.41	0.63	<0.30
Arsenic	.33 MG/KG	2.99	2.93	2.49	3.61	2.84	3.48	2.85
Barium	.02 MG/KG	48.2	47.0	34.5	37.6	30.6	28.3	28.0
Beryllium	.01 MG/KG	0.163	0.113	0.133	0.131	0.138	0.156	0.138
Cadmium	.06 MG/KG	0.11	0.09	0.11	0.14	0.12	0.15	0.14
Chromium	.1 MG/KG	16.0	11.5	13.7	13.5	14.5	17.8	13.7
Copper	.2 MG/KG	10.70	10.60	7.28	7.89	6.87	11.30	5.88
Iron	9 MG/KG	12300	9200	9280	8720	9600	12400	9620
Lead	.8 MG/KG	8.15	170.00	6.16	6.60	6.00	6.64	4.96
Manganese	.08 MG/KG	96.4	82.0	74.5	76.3	77.3	68.4	72.7
Mercury	.004 MG/KG	0.047	0.050	0.029	0.032	0.022	0.026	0.018
Nickel	.1 MG/KG	7.17	4.77	6.18	7.06	6.50	6.43	6.27
Selenium	.24 MG/KG	ND						
Silver	.04 MG/KG	ND						
Thallium	.5 MG/KG	ND						
Tin	.3 MG/KG	1.19	1.28	1.19	0.96	1.07	1.07	0.97
Zinc	.25 MG/KG	32.3	34.2	25.1	25.4	25.7	37.8	23.8

Source:		E-14	E-15	E-17	E-19	E-20	E-21	E-23
Date:		2011	2011	2011	2011	2011	2011	2011
Analyte:	MDL Units	Average						
Aluminum	2 MG/KG	4390	5470	7620	7820	5530	8090	6630
Antimony	.3 MG/KG	0.40	0.38	0.54	0.58	0.45	0.57	0.46
Arsenic	.33 MG/KG	3.17	2.73	3.02	3.72	2.98	2.90	3.00
Barium	.02 MG/KG	23.7	28.5	31.8	43.3	31.6	40.0	35.5
Beryllium	.01 MG/KG	0.113	0.132	0.143	0.160	0.118	0.167	0.151
Cadmium	.06 MG/KG	0.26	0.13	0.18	0.17	0.15	0.19	0.18
Chromium	.1 MG/KG	11.2	12.6	15.2	17.1	14.0	17.2	15.3
Copper	.2 MG/KG	5.59	6.26	6.99	7.97	6.30	9.19	6.79
Iron	9 MG/KG	7150	8560	10500	11500	8630	11400	10000
Lead	.8 MG/KG	3.86	4.86	5.65	7.16	5.42	6.75	6.01
Manganese	.08 MG/KG	53.8	58.5	80.9	95.1	72.7	87.9	80.6
Mercury	.004 MG/KG	0.020	0.023	0.023	0.033	0.020	0.021	0.029
Nickel	.1 MG/KG	5.51	5.97	7.07	8.43	6.78	8.24	7.51
Selenium	.24 MG/KG	ND						
Silver	.04 MG/KG	0.08	ND	0.37	ND	ND	ND	ND
Thallium	.5 MG/KG	ND						
Tin	.3 MG/KG	0.69	0.90	1.09	1.06	0.71	0.96	0.97
Zinc	.25 MG/KG	20.0	21.3	26.8	30.9	24.5	29.1	27.0

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL OCEAN SEDIMENT - STANDARD
Trace Metals

From: 01-JAN-2011 to: 31-DEC-2011

Source:	E-25	E-26
Date:	2011	2011
Analyte:	MDL Units	Average
Aluminum	.2 MG/KG	6010
Antimony	.3 MG/KG	0.50
Arsenic	.33 MG/KG	3.20
Barium	.02 MG/KG	33.2
Beryllium	.01 MG/KG	0.131
Cadmium	.06 MG/KG	0.14
Chromium	.1 MG/KG	14.7
Copper	.2 MG/KG	6.59
Iron	9 MG/KG	9030
Lead	.8 MG/KG	5.87
Manganese	.08 MG/KG	78.1
Mercury	.004 MG/KG	0.030
Nickel	.1 MG/KG	6.93
Selenium	.24 MG/KG	ND
Silver	.04 MG/KG	ND
Thallium	.5 MG/KG	ND
Tin	.3 MG/KG	0.83
Zinc	.25 MG/KG	25.0

ND= not detected

NA= not analyzed

NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Chlorinated Pesticide Analysis - STANDARD STATIONS

Annual 2011

Source:		A-2 2011	A-5 2011	A-8 2011	A-9 2011	A-15 2011	A-16 2011	B-3 2011	B-5 2011
Analyte	MDL	Units	Average	Average	Average	Average	Average	Average	Average
Aldrin	430	NG/KG	ND	ND	ND	ND	ND	ND	ND
Dieldrin	310	NG/KG	ND	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	150	NG/KG	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	310	NG/KG	ND	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	260	NG/KG	ND	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	700	NG/KG	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	470	NG/KG	ND	ND	ND	ND	760	ND	ND
p,p-DDE	260	NG/KG	550	815	720	640	720	740	490
p,-p-DDMU		NG/KG	ND	ND	ND	ND	ND	ND	ND
p,p-DDT	800	NG/KG	ND	ND	ND	ND	ND	ND	ND
o,p-DDD	830	NG/KG	ND	ND	ND	ND	E220	ND	ND
o,p-DDE	720	NG/KG	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	120	NG/KG	ND	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	240	NG/KG	ND	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	350	NG/KG	ND	ND	ND	ND	ND	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	240	NG/KG	ND	ND	ND	ND	ND	ND	ND
Trans Nonachlor	250	NG/KG	ND	ND	ND	ND	ND	ND	ND
Cis Nonachlor	240	NG/KG	ND	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	240	NG/KG	ND	ND	ND	ND	ND	ND	ND
Beta Endosulfan	350	NG/KG	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	260	NG/KG	ND	ND	ND	ND	ND	ND	ND
Endrin	830	NG/KG	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	830	NG/KG	ND	ND	ND	ND	ND	ND	ND
Mirex	500	NG/KG	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	1100	NG/KG	ND	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	430	NG/KG	0	0	0	0	0	0	0
Hexachlorocyclohexanes	700	NG/KG	0	0	0	0	0	0	0
DDT and derivatives	830	NG/KG	550	815	720	640	E1700	740	490
Chlordane + related cmpds.	350	NG/KG	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	1200	NG/KG	550	815	720	640	E1700	740	490
									370

ND=not detected

NA=not analyzed

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Chlorinated Pesticide Analysis - STANDARD STATIONS

Annual 2011

Source:		B-8 2011	B-9 2011	B-10 2011	B-11 2011	B-12 2011	E-1 2011	E-2 2011	E-3 2011
Analyte	MDL	Units	Average 2011						
Aldrin	430	NG/KG	ND						
Dieldrin	310	NG/KG	ND						
BHC, Alpha isomer	150	NG/KG	ND						
BHC, Beta isomer	310	NG/KG	ND						
BHC, Gamma isomer	260	NG/KG	ND						
BHC, Delta isomer	700	NG/KG	ND						
p,p-DDD	470	NG/KG	ND						
p,p-DDE	260	NG/KG	645	480	350	480	E205	750	500
p,-p-DDMU		NG/KG	ND						
p,p-DDT	800	NG/KG	ND	ND	ND	ND	<800	ND	ND
o,p-DDD	830	NG/KG	ND						
o,p-DDE	720	NG/KG	ND						
o,p-DDT	800	NG/KG	ND						
Heptachlor	1200	NG/KG	ND						
Heptachlor epoxide	120	NG/KG	ND						
Alpha (cis) Chlordane	240	NG/KG	ND						
Gamma (trans) Chlordane	350	NG/KG	ND						
Alpha Chlordene		NG/KG	NA						
Gamma Chlordene		NG/KG	NA						
Oxychlordane	240	NG/KG	ND						
Trans Nonachlor	250	NG/KG	ND						
Cis Nonachlor	240	NG/KG	ND						
Alpha Endosulfan	240	NG/KG	ND						
Beta Endosulfan	350	NG/KG	ND						
Endosulfan Sulfate	260	NG/KG	ND						
Endrin	830	NG/KG	ND						
Endrin aldehyde	830	NG/KG	ND						
Mirex	500	NG/KG	ND						
Methoxychlor	1100	NG/KG	ND						
Aldrin + Dieldrin	430	NG/KG	0	0	0	0	0	0	0
Hexachlorocyclohexanes	700	NG/KG	0	0	0	0	0	0	0
DDT and derivatives	830	NG/KG	645	480	350	480	E205	750	500
Chlordane + related cmpds.	350	NG/KG	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	1200	NG/KG	645	480	350	480	E205	750	500
									330

ND=not detected

NA=not analyzed

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Chlorinated Pesticide Analysis - STANDARD STATIONS

Annual 2011

Source:		E-5 2011	E-7 2011	E-8 2011	E-9 2011	E-11 2011	E-14 2011	E-15 2011	E-17 2011
Analyte	MDL	Units	Average	Average	Average	Average	Average	Average	Average
Aldrin	430	NG/KG	ND	ND	ND	ND	ND	ND	ND
Dieldrin	310	NG/KG	ND	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	150	NG/KG	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	310	NG/KG	ND	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	260	NG/KG	ND	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	700	NG/KG	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	470	NG/KG	ND	ND	ND	ND	ND	ND	ND
p,p-DDE	260	NG/KG	310	420	<260	420	<260	E230	385
p,-p-DDMU		NG/KG	ND	ND	ND	ND	ND	ND	ND
p,p-DDT	800	NG/KG	ND	ND	ND	ND	ND	ND	ND
o,p-DDD	830	NG/KG	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	720	NG/KG	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	120	NG/KG	ND	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	240	NG/KG	ND	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	350	NG/KG	ND	ND	ND	ND	ND	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	240	NG/KG	ND	ND	ND	ND	ND	ND	ND
Trans Nonachlor	250	NG/KG	ND	ND	ND	ND	ND	ND	ND
Cis Nonachlor	240	NG/KG	ND	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	240	NG/KG	ND	ND	ND	ND	ND	ND	ND
Beta Endosulfan	350	NG/KG	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	260	NG/KG	ND	ND	ND	ND	ND	ND	ND
Endrin	830	NG/KG	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	830	NG/KG	ND	ND	ND	ND	ND	ND	ND
Mirex	500	NG/KG	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	1100	NG/KG	ND	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	430	NG/KG	0	0	0	0	0	0	0
Hexachlorocyclohexanes	700	NG/KG	0	0	0	0	0	0	0
DDT and derivatives	830	NG/KG	310	420	0	420	0	E230	385
Chlordane + related cmpds.	350	NG/KG	0	0	0	0	0	0	0
Chlorinated Hydrocarbons	1200	NG/KG	0	0	0	0	0	0	0

ND=not detected

NA=not analyzed

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT Chlorinated Pesticide Analysis - STANDARD STATIONS

Annual 2011

Source:			E-19 2011	E-20 2011	E-21 2011	E-23 2011	E-25 2011	E-26 2011
Analyte	MDL	Units	Average	Average	Average	Average	Average	Average
Aldrin	430	NG/KG	ND	ND	ND	ND	ND	ND
Dieldrin	310	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	150	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	310	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	260	NG/KG	ND	ND	ND	ND	ND	ND
BHC, Delta isomer	700	NG/KG	ND	ND	ND	ND	ND	ND
p,p-DDD	470	NG/KG	ND	ND	ND	ND	ND	ND
p,p-DDE	260	NG/KG	360	<260	370	370	485	360
p,-p-DDMU		NG/KG	ND	ND	ND	ND	ND	ND
p,p-DDT	800	NG/KG	ND	ND	ND	ND	ND	ND
o,p-DDD	830	NG/KG	ND	ND	ND	ND	ND	ND
o,p-DDE	720	NG/KG	ND	ND	ND	ND	ND	ND
o,p-DDT	800	NG/KG	ND	ND	ND	ND	ND	ND
Heptachlor	1200	NG/KG	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	120	NG/KG	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	240	NG/KG	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	350	NG/KG	ND	ND	ND	ND	ND	ND
Alpha Chlordene		NG/KG	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/KG	NA	NA	NA	NA	NA	NA
Oxychlordane	240	NG/KG	ND	ND	ND	ND	ND	ND
Trans Nonachlor	250	NG/KG	ND	ND	ND	ND	ND	ND
Cis Nonachlor	240	NG/KG	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	240	NG/KG	ND	ND	ND	ND	ND	ND
Beta Endosulfan	350	NG/KG	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	260	NG/KG	ND	ND	ND	ND	ND	ND
Endrin	830	NG/KG	ND	ND	ND	ND	ND	ND
Endrin aldehyde	830	NG/KG	ND	ND	ND	ND	ND	ND
Mirex	500	NG/KG	ND	ND	ND	ND	ND	ND
Methoxychlor	1100	NG/KG	ND	ND	ND	ND	ND	ND
Aldrin + Dieldrin	430	NG/KG	0	0	0	0	0	0
Hexachlorocyclohexanes	700	NG/KG	0	0	0	0	0	0
DDT and derivatives	830	NG/KG	360	0	370	370	485	360
Chlordane + related cmpds.	350	NG/KG	0	0	0	0	0	0
Chlorinated Hydrocarbons	1200	NG/KG	0	0	0	0	0	0

ND=not detected

NA=not analyzed

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL - PCB Congeners (STANDARD STATIONS)

From 01-JAN-2011 To 31-DEC-2011

Analyte	MDL	Units	A-2 2011	A-5 2011	A-8 2011	A-9 2011	A-15 2011	A-16 2011	B-3 2011	B-5 2011
			Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg
PCB 18	540	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 28	660	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 52	1000	NG/KG	ND	ND	ND	ND	E480	ND	ND	ND
PCB 49	850	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 44	890	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 37	340	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 74	900	NG/KG	ND	ND	ND	ND	ND	E99	ND	ND
PCB 70	1100	NG/KG	ND	ND	ND	ND	ND	E480	ND	ND
PCB 66	920	NG/KG	ND	ND	ND	ND	ND	E320	ND	ND
PCB 101	430	NG/KG	ND	ND	ND	ND	ND	480	ND	ND
PCB 99	660	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 119	560	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 87	600	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 110	640	NG/KG	ND	ND	ND	ND	E640	730	ND	ND
PCB 81	590	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 151	640	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 77	790	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 149	500	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 123	660	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 118	830	NG/KG	ND	ND	ND	ND	ND	E650	ND	ND
PCB 114	700	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 105	720	NG/KG	ND	ND	ND	ND	ND	E370	ND	ND
PCB 138	590	NG/KG	ND	ND	ND	ND	E590	E170	ND	ND
PCB 158	510	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 187	470	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 183	530	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 126	720	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 128	570	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 167	620	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 177	650	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 201	530	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 156	620	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 157	700	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 180	530	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 170	570	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
Total PCB's	1100	NG/KG	0	0	0	0	E1230	E3780	0	0

ND=not detected; NS=not sampled; NA=not analyzed

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL - PCB Congeners (STANDARD STATIONS)

From 01-JAN-2011 To 31-DEC-2011

Analyte	MDL	Units	B-8	B-9	B-10	B-11	B-12	E-1	E-2	E-3
			2011	2011	2011	2011	2011	2011	2011	2011
PCB 18	540	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 28	660	NG/KG	ND	ND	ND	ND	<660	ND	ND	ND
PCB 52	1000	NG/KG	ND	ND	ND	ND	<1000	<1000	<1000	<1000
PCB 49	850	NG/KG	ND	ND	ND	ND	ND	<850	<850	<850
PCB 44	890	NG/KG	ND	ND	ND	ND	ND	ND	ND	<890
PCB 37	340	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 74	900	NG/KG	ND	ND	ND	ND	ND	ND	ND	<900
PCB 70	1100	NG/KG	ND	ND	ND	ND	<1100	<1100	<1100	<1100
PCB 66	920	NG/KG	ND	ND	ND	ND	<920	ND	ND	<920
PCB 101	430	NG/KG	ND	ND	ND	ND	450	<430	1200	
PCB 99	660	NG/KG	ND	ND	ND	ND	<660	ND	<660	
PCB 119	560	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 87	600	NG/KG	ND	ND	ND	ND	ND	<600	<600	
PCB 110	640	NG/KG	ND	ND	ND	ND	<640	<640	E880	
PCB 81	590	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 151	640	NG/KG	ND	ND	ND	ND	ND	ND	<640	
PCB 77	790	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 149	500	NG/KG	ND	ND	ND	ND	<500	<500	E610	
PCB 123	660	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 118	830	NG/KG	ND	ND	ND	ND	<830	<830	<830	
PCB 114	700	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 105	720	NG/KG	ND	ND	ND	ND	ND	<720	<720	
PCB 138	590	NG/KG	ND	ND	ND	ND	<590	<590	<590	
PCB 158	510	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 187	470	NG/KG	ND	ND	ND	ND	<470	ND	<470	
PCB 183	530	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 126	720	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 128	570	NG/KG	ND	ND	ND	ND	ND	ND	ND	<570
PCB 167	620	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 177	650	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 201	530	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 156	620	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 157	700	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 180	530	NG/KG	ND	ND	ND	ND	ND	ND	ND	<530
PCB 170	570	NG/KG	ND	ND	ND	ND	ND	ND	ND	<570
Total PCB's	1100	NG/KG	0	0	0	0	0	450	0	E2690

ND=not detected; NS=not sampled; NA=not analyzed

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL - PCB Congeners (STANDARD STATIONS)

From 01-JAN-2011 To 31-DEC-2011

Analyte	MDL	Units	E-5 2011	E-7 2011	E-8 2011	E-9 2011	E-11 2011	E-14 2011	E-15 2011	E-17 2011
			Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg
PCB 18	540	NG/KG	ND	ND	ND	<540	ND	ND	ND	ND
PCB 28	660	NG/KG	ND	ND	ND	<660	ND	ND	ND	ND
PCB 52	1000	NG/KG	ND	ND	ND	E3000	ND	ND	ND	ND
PCB 49	850	NG/KG	ND	ND	ND	<850	ND	ND	ND	ND
PCB 44	890	NG/KG	ND	ND	ND	E1100	ND	ND	ND	ND
PCB 37	340	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 74	900	NG/KG	ND	ND	ND	<900	ND	ND	ND	ND
PCB 70	1100	NG/KG	ND	ND	ND	E1900	ND	ND	ND	ND
PCB 66	920	NG/KG	ND	ND	ND	E1100	ND	ND	ND	ND
PCB 101	430	NG/KG	ND	ND	ND	4500	ND	ND	ND	ND
PCB 99	660	NG/KG	ND	ND	ND	E1400	ND	ND	ND	ND
PCB 119	560	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 87	600	NG/KG	ND	ND	ND	1800	ND	ND	ND	ND
PCB 110	640	NG/KG	ND	ND	ND	E3600	ND	ND	<640	ND
PCB 81	590	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 151	640	NG/KG	ND	ND	ND	E1000	ND	ND	ND	ND
PCB 77	790	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 149	500	NG/KG	ND	ND	ND	E2100	ND	ND	<500	ND
PCB 123	660	NG/KG	ND	ND	ND	<660	ND	ND	ND	ND
PCB 118	830	NG/KG	ND	ND	ND	E2900	ND	ND	<830	ND
PCB 114	700	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 105	720	NG/KG	ND	ND	ND	E1100	ND	ND	ND	ND
PCB 138	590	NG/KG	ND	ND	ND	1000	ND	ND	ND	ND
PCB 158	510	NG/KG	ND	ND	ND	<510	ND	ND	ND	ND
PCB 187	470	NG/KG	ND	ND	ND	E470	ND	ND	ND	ND
PCB 183	530	NG/KG	ND	ND	ND	<530	ND	ND	ND	ND
PCB 126	720	NG/KG	ND	ND	ND	ND	ND	ND	ND	ND
PCB 128	570	NG/KG	ND	ND	ND	700	ND	ND	ND	ND
PCB 167	620	NG/KG	ND	ND	ND	<620	ND	ND	ND	ND
PCB 177	650	NG/KG	ND	ND	ND	<650	ND	ND	ND	ND
PCB 201	530	NG/KG	ND	ND	ND	<530	ND	ND	ND	ND
PCB 156	620	NG/KG	ND	ND	ND	<620	ND	ND	ND	ND
PCB 157	700	NG/KG	ND	ND	ND	<700	ND	ND	ND	ND
PCB 180	530	NG/KG	ND	ND	ND	850	ND	ND	ND	ND
PCB 170	570	NG/KG	ND	ND	ND	<570	ND	ND	ND	ND
Total PCB's	1100	NG/KG	0	0	0	E24470	0	0	0	0

ND=not detected; NS=not sampled; NA=not analyzed

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL - PCB Congeners (STANDARD STATIONS)

From 01-JAN-2011 To 31-DEC-2011

Analyte	MDL	Units	E-19	E-20	E-21	E-23	E-25	E-26
			2011	2011	2011	2011	2011	2011
PCB 18	540	NG/KG	ND	ND	ND	ND	ND	ND
PCB 28	660	NG/KG	ND	ND	ND	ND	ND	ND
PCB 52	1000	NG/KG	ND	ND	ND	ND	ND	ND
PCB 49	850	NG/KG	ND	ND	ND	ND	ND	ND
PCB 44	890	NG/KG	ND	ND	ND	ND	ND	ND
PCB 37	340	NG/KG	ND	ND	ND	ND	ND	ND
PCB 74	900	NG/KG	ND	ND	ND	ND	ND	ND
PCB 70	1100	NG/KG	ND	ND	ND	ND	ND	ND
PCB 66	920	NG/KG	ND	ND	ND	ND	ND	ND
PCB 101	430	NG/KG	ND	ND	ND	ND	ND	ND
PCB 99	660	NG/KG	ND	ND	ND	ND	ND	ND
PCB 119	560	NG/KG	ND	ND	ND	ND	ND	ND
PCB 87	600	NG/KG	ND	ND	ND	ND	ND	ND
PCB 110	640	NG/KG	ND	ND	ND	ND	ND	ND
PCB 81	590	NG/KG	ND	ND	ND	ND	ND	ND
PCB 151	640	NG/KG	ND	ND	ND	ND	ND	ND
PCB 77	790	NG/KG	ND	ND	ND	ND	ND	ND
PCB 149	500	NG/KG	ND	ND	ND	ND	ND	ND
PCB 123	660	NG/KG	ND	ND	ND	ND	ND	ND
PCB 118	830	NG/KG	ND	ND	ND	ND	ND	ND
PCB 114	700	NG/KG	ND	ND	ND	ND	ND	ND
PCB 105	720	NG/KG	ND	ND	ND	ND	ND	ND
PCB 138	590	NG/KG	ND	ND	ND	ND	ND	ND
PCB 158	510	NG/KG	ND	ND	ND	ND	ND	ND
PCB 187	470	NG/KG	ND	ND	ND	ND	ND	ND
PCB 183	530	NG/KG	ND	ND	ND	ND	ND	ND
PCB 126	720	NG/KG	ND	ND	ND	ND	ND	ND
PCB 128	570	NG/KG	ND	ND	ND	ND	ND	ND
PCB 167	620	NG/KG	ND	ND	ND	ND	ND	ND
PCB 177	650	NG/KG	ND	ND	ND	ND	ND	ND
PCB 201	530	NG/KG	ND	ND	ND	ND	ND	ND
PCB 156	620	NG/KG	ND	ND	ND	ND	ND	ND
PCB 157	700	NG/KG	ND	ND	ND	ND	ND	ND
PCB 180	530	NG/KG	ND	ND	ND	ND	ND	ND
PCB 170	570	NG/KG	ND	ND	ND	ND	ND	ND
Total PCB's	1100	NG/KG	0	0	0	0	0	0

ND=not detected; NS=not sampled; NA=not analyzed

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
SEDIMENT ANNUAL Base/Neutrals - Standard Stations

From 01-JAN-2011 to 31-DEC-2011

Analyte	MDL	Units	B-8	B-9	B-10	B-11	B-12	E-1	E-2	E-3	E-5	E-7	E-8	E-9	E-11
			2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011
Acenaphthene	20	UG/KG	ND												
Acenaphthylene	30	UG/KG	ND												
Anthracene	20	UG/KG	ND												
Benzo[a]anthracene	20	UG/KG	ND	ND	ND	ND	ND	<20	<20	28	ND	ND	ND	<20	ND
Benzo[a]pyrene	20	UG/KG	ND	ND	ND	ND	ND	27	<20	43	ND	ND	ND	ND	ND
3,4-Benzo(b)fluoranthene	20	UG/KG	ND	ND	ND	ND	ND	29	<20	45	ND	ND	ND	ND	ND
Benzo[e]pyrene	20	UG/KG	ND	ND	ND	ND	ND	<20	ND	26	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	20	UG/KG	ND	ND	ND	ND	ND	<20	ND	25	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	20	UG/KG	ND	<20	ND	ND	ND	ND	ND						
Biphenyl	30	UG/KG	ND												
Chrysene	40	UG/KG	ND	ND	ND	ND	ND	<40	ND						
Dibenz(a,h)anthracene	20	UG/KG	ND												
2,6-Dimethylnaphthalene	20	UG/KG	ND												
Fluoranthene	20	UG/KG	ND	ND	ND	ND	ND	<20	<20	30	ND	ND	ND	ND	ND
Fluorene	20	UG/KG	ND												
Indeno(1,2,3-CD)pyrene	20	UG/KG	ND	ND	ND	ND	ND	<20	ND	<20	ND	ND	ND	ND	ND
1-Methylphenanthrene	20	UG/KG	ND												
2-Methylnaphthalene	20	UG/KG	ND												
1-Methylnaphthalene	20	UG/KG	ND												
Naphthalene	30	UG/KG	ND												
Perylene	30	UG/KG	ND												
Phenanthrene	30	UG/KG	ND	ND	ND	ND	ND	<30	ND						
Pyrene	20	UG/KG	ND	ND	ND	ND	ND	26	<20	32	ND	ND	ND	ND	ND
2,3,5-Trimethylnaphthalene	20	UG/KG	ND												
Base/Neutral Compounds	40	UG/KG	0	0	0	0	0	82	0	229	0	0	0	0	0
Analyte	MDL	Units	E-14	E-15	E-17	E-19	E-20	E-21	E-23	E-25	E-26				
			2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011		
Acenaphthene	20	UG/KG	ND												
Acenaphthylene	30	UG/KG	ND												
Anthracene	20	UG/KG	ND												
Benzo[a]anthracene	20	UG/KG	ND												
Benzo[a]pyrene	20	UG/KG	ND												
3,4-Benzo(b)fluoranthene	20	UG/KG	ND												
Benzo[e]pyrene	20	UG/KG	ND												
Benzo[g,h,i]perylene	20	UG/KG	ND	29	24	23									
Benzo[k]fluoranthene	20	UG/KG	ND												
Biphenyl	30	UG/KG	ND												
Chrysene	40	UG/KG	ND												
Dibenz(a,h)anthracene	20	UG/KG	ND	21	<20	<20									
2,6-Dimethylnaphthalene	20	UG/KG	ND												
Fluoranthene	20	UG/KG	ND												
Fluorene	20	UG/KG	ND												
Indeno(1,2,3-CD)pyrene	20	UG/KG	ND	24	<20	<20									
1-Methylphenanthrene	20	UG/KG	ND												
2-Methylnaphthalene	20	UG/KG	ND												
1-Methylnaphthalene	20	UG/KG	ND												
Naphthalene	30	UG/KG	ND												
Perylene	30	UG/KG	ND												
Phenanthrene	30	UG/KG	ND												
Pyrene	20	UG/KG	ND												
2,3,5-Trimethylnaphthalene	20	UG/KG	ND												
Base/Neutral Compounds	40	UG/KG	0	0	0	0	0	0	0	74	24	23			

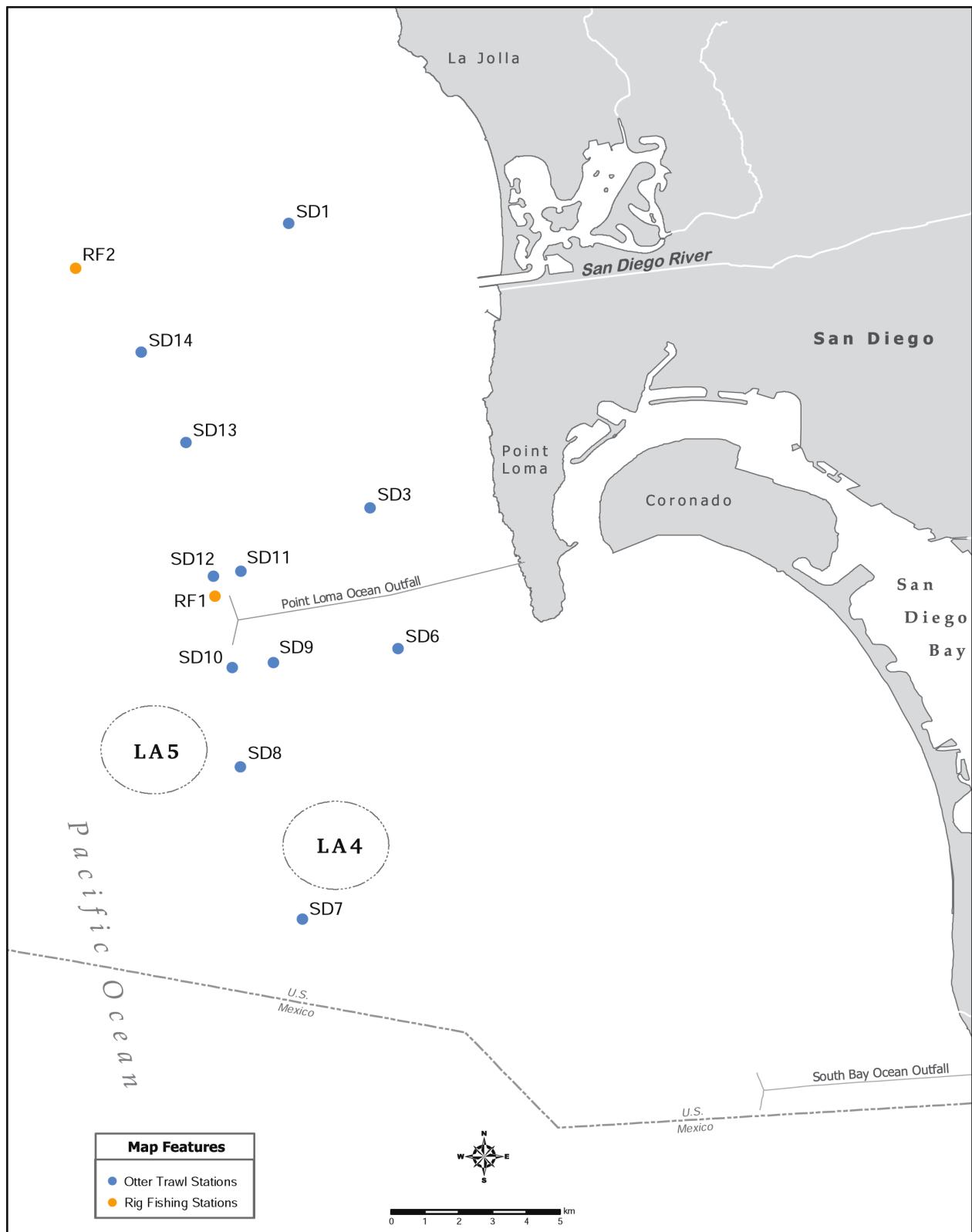
nd=not detected; NS=not sampled; NA=not analyzed

B. Fish Tissue Data.

Fish were taken from the stations shown in the below tables during 2011. The fish were dissected, preserved by freezing, and each sample analyzed for trace metals, chlorinated pesticides, PCBs, Lipids, and total solids.

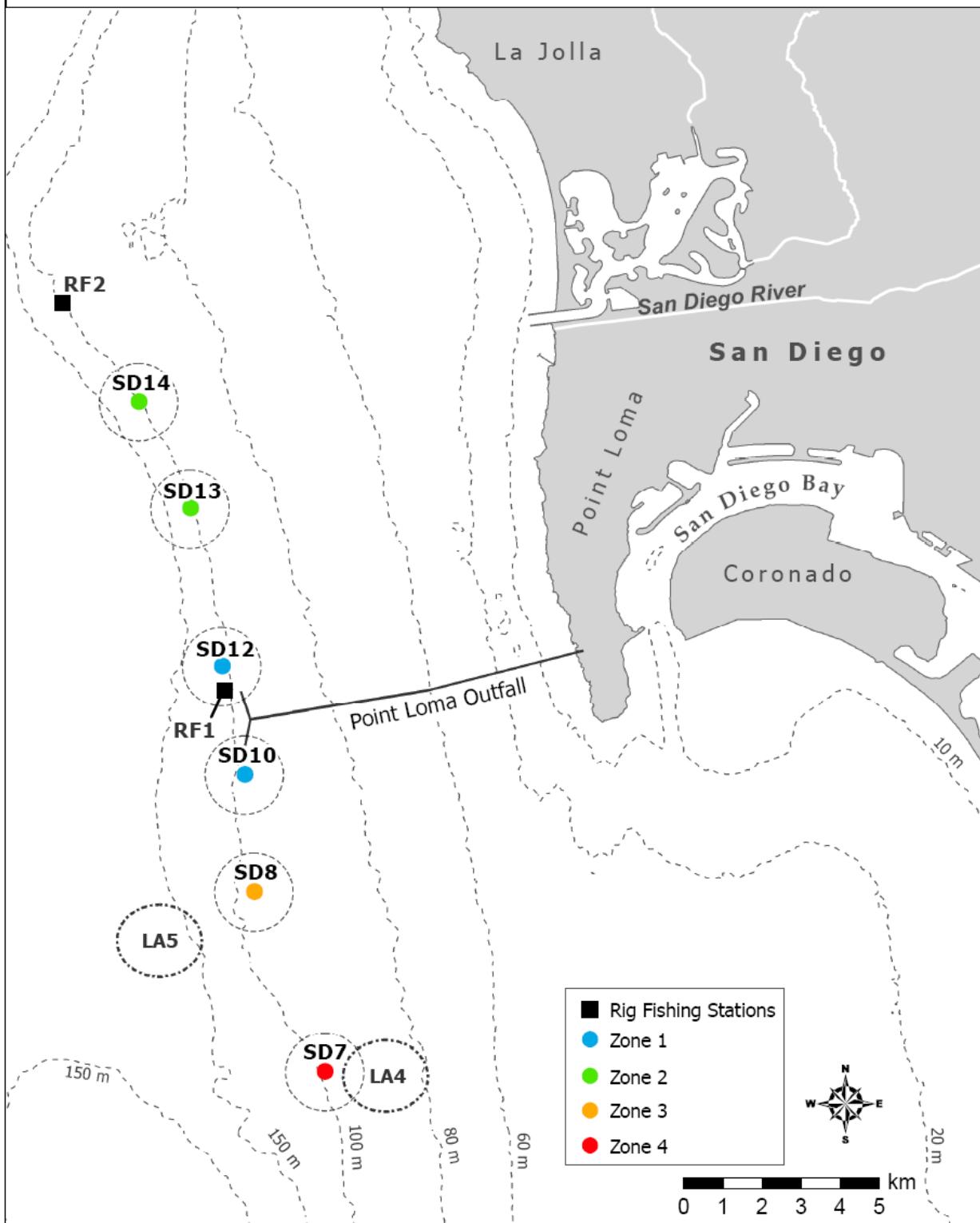
The reported values are annual averages. Results for individual sampling events are contained in the previously published quarterly reports.

<u>Station</u>	<u>Matrix</u>	<u>Station</u>	<u>Matrix</u>
RF-1	FISH_MUSCLE	TFZONE1 (SD-10 & 12)	FISH_LIVER
RF-2	FISH_MUSCLE	TFZONE2 (SD-13 & 14)	FISH_LIVER
		TFZONE3 (SD-8)	FISH_LIVER
		TFZONE4 (SD-7)	FISH_LIVER



San Diego Rig Fishing and Trawl Stations

Point Loma Rig Fishing and Trawl Stations



New Trawl Stations representing zones (i.e. TFZONE1 through TFZONE4)

POINT LOMA WASTEWATER TREATMENT PLANT
 Annual Fish Tissue - Muscle/Liver
 FISH - Lipids & Total Solids

Annual 2011

Tissue Analyte	MDL	Units	RF-1 2011	RF-2 2011	TFZONE1 2011	TFZONE2 2011	TFZONE3 2011	TFZONE4 2011
			Avg	Avg	Avg	Avg	Avg	Avg
Liver Lipids	.0975	WT%			40.7	37.0	27.6	35.7
Liver Total Solids	.4	WT%			55.7	48.5	41.0	53.2
Muscle Lipids	.0975	WT%	0.43	1.66				
Muscle Total Solids	.4	WT%	21.5	23.6				

ND= not detected

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL FISH TISSUE - LIVER
Trace Metals

From: 01-JAN-2011 To: 31-DEC-2011

Source:	TFZONE1		TFZONE2		TFZONE3		TFZONE4	
	Date:	2011	Date:	2011	Date:	2011	Date:	2011
Analyte:	MDL	Units	Average	Average	Average	Average	Average	Average
Aluminum	3	MG/KG	7.32	7.81	3.94	15.50		
Antimony	.2	MG/KG	ND	ND	ND	ND		
Arsenic	.24	MG/KG	3.72	3.67	3.50	3.75		
Beryllium	.006	MG/KG	ND	ND	ND	ND		
Cadmium	.06	MG/KG	6.50	4.97	18.10	9.73		
Chromium	.1	MG/KG	0.22	0.19	0.24	0.25		
Copper	.3	MG/KG	2.90	3.30	8.07	4.49		
Iron	2	MG/KG	68	75	55	71		
Lead	.2	MG/KG	ND	ND	ND	<0.20		
Manganese	.1	MG/KG	0.83	1.10	1.19	0.91		
Mercury	.002	MG/KG	0.048	0.059	0.252	0.083		
Nickel	.2	MG/KG	ND	<0.20	ND	ND		
Selenium	.06	MG/KG	0.68	0.88	1.01	0.93		
Silver	.05	MG/KG	ND	<0.05	<0.05	<0.05		
Thallium	.4	MG/KG	0.76	0.70	0.71	0.97		
Tin	.2	MG/KG	0.44	0.52	0.26	0.46		
Zinc	.15	MG/KG	20.7	22.2	33.2	23.1		
Total Solids	.4	WT%	55.7	48.5	41.0	53.2		

nd= not detected

NA= not analyzed

NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL FISH TISSUE - MUSCLE
Trace Metals

From: 01-JAN-2011 To: 31-DEC-2011

Source:		RF-1	RF-2
Date:		2011	2011
Analyte:	MDL Units	Average	Average
Aluminum	3 MG/KG	<3.00	<3.00
Antimony	.2 MG/KG	ND	ND
Arsenic	.24 MG/KG	1.27	0.79
Beryllium	.006 MG/KG	ND	ND
Cadmium	.06 MG/KG	ND	ND
Chromium	.1 MG/KG	<0.10	ND
Copper	.3 MG/KG	<0.30	0.34
Iron	2 MG/KG	<2.00	<2.00
Lead	.2 MG/KG	ND	ND
Manganese	.1 MG/KG	<0.10	ND
Mercury	.002 MG/KG	0.045	0.093
Nickel	.2 MG/KG	ND	ND
Selenium	.06 MG/KG	0.363	0.500
Silver	.05 MG/KG	ND	ND
Thallium	.4 MG/KG	<0.40	<0.40
Tin	.2 MG/KG	<0.20	<0.20
Zinc	.15 MG/KG	3.74	3.92
Total Solids	.4 WT%	21.5	23.6

nd= not detected

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NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
FISH LIVER - Chlorinated Pesticides

Annual 2011

Source:	MDL	Units	TFZONE1	TFZONE2	TFZONE3	TFZONE4
			2011	2011	2011	2011
Analyte	Avg	Avg	Avg	Avg	Avg	Avg
=====	=====	=====	=====	=====	=====	=====
Hexachlorobenzene	1.32 UG/KG	4.3	3.6	2.9	4.0	
BHC, Gamma isomer	63.4 UG/KG	ND	ND	ND	ND	
Heptachlor	3.82 UG/KG	ND	ND	ND	ND	
Aldrin	88.1 UG/KG	ND	ND	ND	ND	
Heptachlor epoxide	3.89 UG/KG	ND	ND	ND	ND	
o,p-DDE	2.79 UG/KG	<2.8	E2.4	<2.8	<2.8	
Alpha Endosulfan	118 UG/KG	ND	ND	ND	ND	
Alpha (cis) Chlordane	4.56 UG/KG	<4.6	E2.8	E2.4	E2.6	
Trans Nonachlor	2.58 UG/KG	4.7	4.1	<2.6	E3.3	
p,p-DDE	2.08 UG/KG	230	208	120	175	
p,-p-DDMU	3.29 UG/KG	24	22.2	13.7	19.5	
Dieldrin	17.1 UG/KG	ND	ND	ND	ND	
o,p-DDD	2.02 UG/KG	ND	<2.0	<2.0	<2.0	
Endrin	14.2 UG/KG	ND	ND	ND	ND	
o,p-DDT	1.62 UG/KG	<1.6	ND	ND	<1.6	
p,p-DDD	3.36 UG/KG	4.5	4.4	E2.6	E3.9	
p,p-DDT	2.69 UG/KG	4.6	3.8	E2.7	3.0	
Mirex	1.49 UG/KG	ND	ND	ND	ND	

ND= not detected

NA= not analyzed

E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

Note: Standards for alpha and gamma chlordene are no longer available in the U.S. for the analysis of these compounds.

POINT LOMA WASTEWATER TREATMENT PLANT
FISH MUSCLE - Chlorinated Pesticides

Annual 2011

Analyte	MDL	Units	RF-1	RF-2
			2011	2011
Hexachlorobenzene	.13	UG/KG	E0.13	E0.27
BHC, Gamma isomer	6.34	UG/KG	ND	ND
Heptachlor	.38	UG/KG	ND	ND
Aldrin	8.81	UG/KG	ND	ND
Heptachlor epoxide	.39	UG/KG	ND	ND
o,p-DDE	.28	UG/KG	<0.28	<0.28
Alpha Endosulfan	11.8	UG/KG	ND	ND
Alpha (cis) Chlordane	.46	UG/KG	ND	<0.5
Trans Nonachlor	.26	UG/KG	ND	ND
p,p-DDE	.21	UG/KG	1.60	5.5
p,-p-DDMU	.33	UG/KG	ND	ND
Dieldrin	1.71	UG/KG	ND	ND
o,p-DDD	.2	UG/KG	<0.2	ND
Endrin	1.42	UG/KG	ND	ND
o,p-DDT	.16	UG/KG	ND	ND
p,p-DDD	.34	UG/KG	<0.34	<0.34
p,p-DDT	.27	UG/KG	0.3	<0.3
Mirex	.15	UG/KG	ND	ND

ND= not detected

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E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

Note: Standards for alpha and gamma chlordene are no longer available in the U.S. for the analysis of these compounds.

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL FISH LIVER - Poly Chlorinated Biphenyls (PCB's)

Annual 2011

Analyte	MDL	Units	TFZONE1	TFZONE2	TFZONE3	TFZONE4
			2011 Avg	2011 Avg	2011 Avg	2011 Avg
PCB 18	2.86	UG/KG	ND	ND	<2.9	ND
PCB 28	2.47	UG/KG	ND	<2.5	<2.5	ND
PCB 49	5.02	UG/KG	E2.57	E1.82	<5.02	E2.00
PCB 37	2.77	UG/KG	ND	ND	ND	ND
PCB 70	2.49	UG/KG	2.93	<2.49	E4.05	<2.49
PCB 101	4.34	UG/KG	8.53	5.62	7.80	E6.53
PCB 119	2.39	UG/KG	E0.77	E0.63	<2.39	<2.39
PCB 87	3.01	UG/KG	<3.0	E3.3	<3.0	<3.0
PCB 110	2.5	UG/KG	10.1	7.7	8.8	E7.6
PCB 151	1.86	UG/KG	5.60	4.03	3.03	E3.90
PCB 77	2.01	UG/KG	ND	ND	ND	ND
PCB 149	2.34	UG/KG	8.60	5.73	5.27	6.07
PCB 123	2.64	UG/KG	<2.6	E2.2	E1.6	<2.6
PCB 118	2.06	UG/KG	20	14.0	13.8	13.1
PCB 114	3.15	UG/KG	ND	ND	ND	ND
PCB 153/168	2.54	UG/KG	51	40.5	27.7	34.6
PCB 105	2.29	UG/KG	6.37	4.57	4.13	3.73
PCB 138	1.73	UG/KG	28	22.3	14.5	18.2
PCB 158	2.72	UG/KG	E2.97	<2.72	E1.53	<2.72
PCB 187	2.5	UG/KG	15.3	12.7	7.8	9.9
PCB 183	1.55	UG/KG	4.30	3.98	2.37	E2.93
PCB 126	1.52	UG/KG	ND	ND	ND	ND
PCB 128	1.23	UG/KG	11.6	10.3	6.13	7.23
PCB 167	1.63	UG/KG	3.50	2.92	<1.63	1.93
PCB 177	1.91	UG/KG	3.00	2.48	<1.91	<1.91
PCB 156	.64	UG/KG	7.57	5.93	2.73	4.57
PCB 157	2.88	UG/KG	ND	ND	ND	ND
PCB 180	2.58	UG/KG	15.7	13.8	8.00	E10.8
PCB 170	1.23	UG/KG	4.50	4.67	<1.23	2.97
PCB 169	2.76	UG/KG	ND	ND	ND	ND
PCB 189	1.78	UG/KG	ND	ND	ND	ND
PCB 194	1.14	UG/KG	3.93	3.93	2.43	2.27
PCB 206	1.28	UG/KG	2.73	2.57	1.30	1.70

ND= not detected

NA= not analyzed

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E=estimated value, value is less than the Method Detection Limit but confirmed by GC/MS-MS

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL FISH MUSCLE - Poly Chlorinated Biphenyls (PCB's)

Annual 2011

Analyte	MDL Units	RF-1	RF-2
		2011	2011
		Avg	Avg
PCB 18	.29 UG/KG	ND	ND
PCB 28	.28 UG/KG	<0.28	ND
PCB 49	.5 UG/KG	<0.50	ND
PCB 37	.25 UG/KG	ND	ND
PCB 70	.25 UG/KG	ND	<0.25
PCB 101	.43 UG/KG	<0.43	<0.43
PCB 119	.24 UG/KG	ND	ND
PCB 87	.3 UG/KG	ND	ND
PCB 110	.25 UG/KG	ND	<0.25
PCB 151	.19 UG/KG	ND	ND
PCB 77	.2 UG/KG	ND	ND
PCB 149	.23 UG/KG	<0.23	<0.23
PCB 123	.26 UG/KG	ND	ND
PCB 118	.21 UG/KG	<0.21	0.23
PCB 114	.31 UG/KG	ND	ND
PCB 153/168	.25 UG/KG	<0.25	0.67
PCB 105	.23 UG/KG	ND	ND
PCB 138	.17 UG/KG	<0.17	0.42
PCB 158	.27 UG/KG	ND	ND
PCB 187	.25 UG/KG	<0.25	E0.25
PCB 183	.15 UG/KG	ND	ND
PCB 126	.15 UG/KG	ND	ND
PCB 128	.12 UG/KG	ND	ND
PCB 167	.16 UG/KG	ND	ND
PCB 177	.19 UG/KG	ND	ND
PCB 156	.06 UG/KG	ND	ND
PCB 157	.29 UG/KG	ND	ND
PCB 180	.26 UG/KG	<0.26	<0.26
PCB 170	.12 UG/KG	ND	<0.12
PCB 169	.28 UG/KG	ND	ND
PCB 189	.18 UG/KG	ND	ND
PCB 194	.11 UG/KG	ND	ND
PCB 206	.13 UG/KG	ND	ND

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